Economic and Fiscal Impacts of the Film Production Tax Credit in Maryland

Prepared for
Maryland Film Industry Coalition

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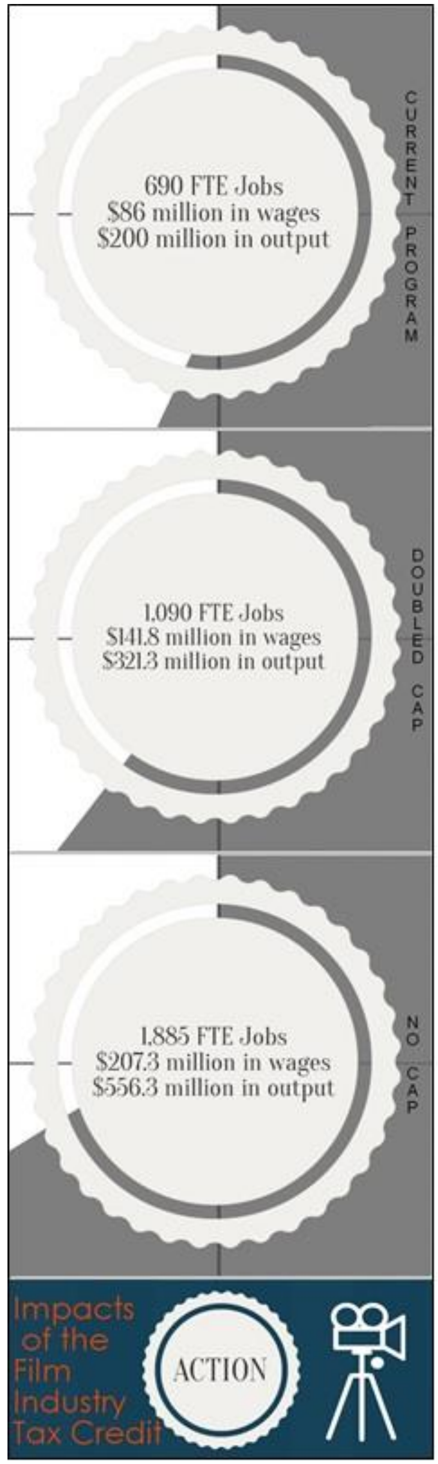
1.0 Executive Summary

The following report studies and elaborates on the economic and fiscal impacts associated with the *Maryland Film Production Employment Act of 2011*, as requested by MFIC and conducted by Towson University's RESI.

By comparing tax credits claimed with tax revenues generated, RESI determined the ROI of the film tax credit program between CY 2012 and CY 2015.

- For every reported $1 claimed in film tax credits, Maryland gains $1.03 in total additional property, sales, income, and other tax revenues.
- Were the tax credit to be doubled or uncapped, the expected ROI would increase to $1.05 for every $1 of tax credit claimed between CY 2012 and CY 2015.

Below are RESI's key findings in regard to the economic and fiscal impacts of the projects that will receive tax credits under the *Film Production Employment Act of 2011.* Impacts were determined for the lifetime of the program, FY 2011 through FY 2016.



Economic Impacts, FY 2011–2016

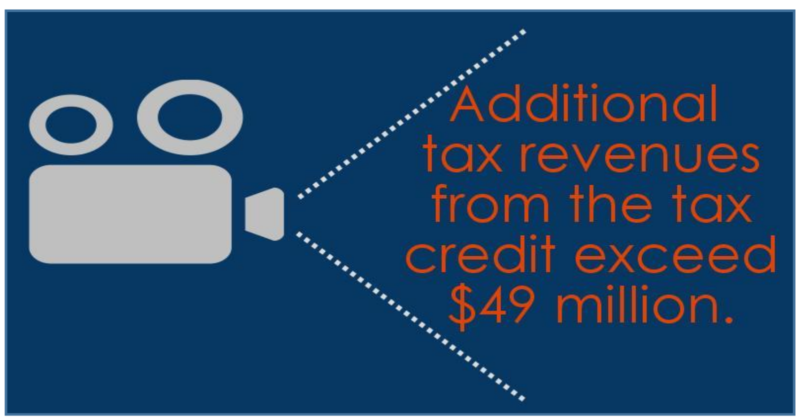
- The current tax credit program has the ability to support an annual average of more than 690 FTE jobs, a total of nearly $200.0 million in output, and a total of approximately $86.0 million in wages (an annual average of $56,487 per person[1]) through FY 2016.

- Of the five projects that have already received tax credits under the new incentive program:
    - The number of Maryland hires (technicians, actors and extras) ranged from 69 to 2,198 persons, an average of 746 Maryland hires per project.
    - The number of Maryland businesses utilized ranged from 338 to 1,814, averaging nearly 860 Maryland businesses and vendors per project that were positively impacted by the incentive applicant projects.[2]
- Overall, the additional output Maryland receives from every $1 claimed under the current program is $3.69.
- If the tax credit cap was doubled, to $15.0 million a year from the current $7.5 million, Maryland could see productions support an annual average of approximately 1,090 FTE jobs, a total of more than $321.3 million in output, and a total of approximately $141.8 million in wages through FY 2016. If the program was doubled, Maryland would receive an additional $3.97 in output per every $1 of tax credit claimed.
- If there were no tax credit cap limit, Maryland could see productions support an annual average roughly 1,885 FTE jobs, a total of $556.3 million in output, and a total of $207.3 million in wages in Maryland through FY 2016. If the program was uncapped, preliminary estimates indicated that Maryland could receive an additional $3.49 in output per every $1 of tax credit claimed.
- On average, a production may add $1.1 million per year in tourism-induced spending. In some cases, such as *Dirty Dancing*, positive economic impacts are being seen in the community where filming took place more than 25 years after the movie was released.[3]

Fiscal Impacts, FY 2011–FY 2016

RESI reviewed tax revenue data from CY 2012 through CY 2015.[4]

- During that period of time, the total tax credit claimed by productions was estimated to be approximately $48.8 million.[5]



[1] According to the BLS, Maryland's average annual wages per person in 2012 amounted to approximately $54,000.
[2] Catherine Batavick, email attachment to author, August 29, 2013.
[3] The Dirty Dancing Festival, "About the Dirty Dancing Festival."
[4] RESI negated the inclusion of CY 2011 and CY 2016 to create a balanced report of productions and tax credit claims. CY 2011 reported one production receiving a tax credit, but its claim would not occur until CY 2012. CY 2016 would include tax credits claimed for productions in CY 2015, but no additional productions if the program ends in FY 2016.
[5] Please refer to Appendix B for more information on assumptions made in RESI's analysis.

- Between CY 2012 and CY 2015, RESI found total additional tax revenues of more than $49.2 million.
- Overall, the return on investment between CY 2012 and CY 2015 reported for every $1 claimed in film tax credits, Maryland gains $1.03 in total additional property, sales, income, and other tax revenues.
- Using a similar methodology, RESI found if the tax credit were to be doubled or uncapped under current assumptions then Maryland could expect a $1.05 return on investment for every $1 of tax credit claimed between CY 2012 and CY 2015.

Community Impacts

In addition to the measurable impacts shown in this report, there are the additional impacts felt by local businesses and communities.

- An average of nearly 860 vendors per project is positively impacted.
- RESI received testimonials from various supporters, including the owners and managers of furniture and consignment stores, rental car services, hotel and lodging facilities, and other businesses providing products and services during production.
    - Due to business received from the film industry, local businesses have seen expansion, increased employment, a diversification of their client base, and stabilization of revenue stream.
    - Some businesses cite expansion of the film industry as being responsible for their ability to remain open and to grow.
    - Hotels, restaurants, and retailers are all utilized and benefit from cast and crew staying onsite or nearby during production.
- RESI spoke directly with several locally impacted business owners and industry personnel.
    - One interviewee pointed out that the filming community requires a vast amount of personnel, who in turn contribute to local businesses, the economy, and tax revenues.
    - Another interviewee cited increased film production as being responsible for the creation of new local companies and also increasing tourism.
    - An additional interviewee spoke out about the positive impacts on the community as a whole. Stating that the presence of production teams lead to increased safety, mentorship opportunities, and charity involvement.

Film-Induced Tourism

- Not only does film and television production create FTE jobs and induce spending, but it also creates positive long-term impacts for a community.
    - When a location appears in popular productions, the scenes from that production have the potential to create icons out of once little known places and sights. This is known as film-induced tourism.
    - A few areas in Maryland have benefited from or capitalized on this—the town of Berlin hosted filming of *Runaway Bride* and *Tuck Everlasting*, while St. Michaels

    and the surrounding area hosted *The First Kiss*, *The Wedding Crashers*, *Failure to Launch*, *Swimmers*, *Silent Fall*, and more.
    - The Inn at Perry Cabin in St. Michaels, Maryland, appeared in both *The First Kiss* in 1928 and *The Wedding Crashers* in 2005—a fact boasted on its website.[6] Following the release of *The Wedding Crashers*, fans have flocked to the Inn for their own weddings.[7]
- Locations not only draw attention due to filming, but also from the stars who promote and provide positive attention to Maryland, its assets, and local businesses.
    - Following filming of Better Living Through Chemistry, Jane Fonda publicly spoke about "how utterly charming" Annapolis is on her blog.[8] Jane Fonda has been referred to as "Annapolis' newest ambassador."[9]
    - In 2013 Julia Louis-Dreyfus remembered to thank the show's "wonderful crew in Baltimore" when she recently won an Emmy for her performance on *Veep*.[10]
    - When Kevin Spacey has free time, he likes to take in the local culture and enjoy a good meal—in 2012 he listed his favorite restaurants for Men's Journal.[11] An Annapolis restaurant, Metropolitan Kitchen & Lounge, made the cut.[12] Spacey referred to it as "a very cool place."[13]

[6] The Inn at Perry Cabin, "The Hotel: Weddings & Honeymoons."
[7] Shay, "Stars shine in Maryland, as state pulls in more film and TV productions."
[8] Fonda, "Better Living Through Chemistry."
[9] Rosen, "Jane Fonda smitten with Annapolis."
[10] TV News Desk, "Julia Louis-Dreyfus Wins Emmy for Lead Actress in a Comedy Series."
[11] Brendel, "Kevin Spacey's Favorite Late-Night Restaurants."
[12] Ibid, 2.
[13] Ibid.

2.0 Introduction

The following report studies and elaborates on the economic and fiscal impacts associated with the *Film Production Employment Act of 2011*, as requested by MFIC and conducted by Towson University's RESI.

The arts, and specifically the motion picture and video industry, are a vital part of the economy. In 2013, for the first time, the Bureau of Economic Analysis (BEA), part of the U.S. Department of Commerce, quantified the economic impact of the arts.[14] In 2011 arts industries in the United States supported two million workers, $289.5 billion in wages, and $504.0 billion in output.[15] Largely contributing to these totals was the motion picture and video industry—supporting more than 300,000 jobs and $25.0 billion in wages.[16] Through production incentives, states across the nation are trying to maximize these impacts.

The *Film Production Employment Act of 2011*, or SB 672, sponsored by Senator Edward J. Kasemeyer, received unanimous support in Maryland's General Assembly and was signed into law during the 2011 Maryland General Assembly, replacing the former rebate program.[17] [18] The *Film Production Employment Act of 2011* allowed for Maryland's DBED to award up to $7.5 million in tax credits per year for FY 2012 through 2014.[19] Qualifying feature films were eligible for a tax credit of up to 25 percent of direct costs, and television series were eligible for a tax credit of up to 27 percent of direct costs.[20]

In 2012, SB 1066 was introduced to increase the amount of total annual credits to $22.5 million and to extend the program to July 2016.[21] However, it was not until 2013's SB 183, that these changes were seen. SB 183 increased the available tax credits for FY 2014 to $25 million and extended the incentive program—of $7.5 million per year—through FY 2016.[22]

Contrary to how some have characterized it, the film incentive offered in Maryland is not an upfront cash payout from the State to production entities.[23] As described by the Maryland Film Office, the film incentive is first applied for. Then, following approval, production occurs—generally during a single CY. Assuming production wraps prior to December 31 of a given year, the production can apply the approved tax credit amount upon filing taxes in the following CY. Typically, a production applying for the film incentive spends during production in one CY,

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[14] Recio, "Who knew? The arts bring big bucks to the economy."
[15] Ibid.
[16] Ibid.
[17] Senator Kasemeyer, "SB 672," 1.
[18] General Assembly of Maryland, "Explanation of Motions and Actions SB 672."
[19] Senator Kasemeyer, "SB 672," 1.
[20] Ibid.
[21] Ibid.
[22] Chair, Budget and Taxation Committee and Senator Kasemeyer, "Senate Bill 183," 6.
[23] The Maryland Film Office, "Film Production Activity Tax Credit."

contributing to Maryland's economy in the process, and then claims the tax credit in the following CY.

The Maryland Film Office, a division of DBED, tracks each incentive applicant, the correlating incentive amount, production expenditures, and the number of local hires for each project—covering both the previous grant program and the current tax credit program. Since the *Film Production Employment Act of 2011*went into effect in 2011, five film and television projects received a tax credit. As of FY 2013, the new program allocated $16.6 million in tax credits between five productions filmed in FY 2012 and FY 2013—resulting in production expenditures of approximately $84.1 million.

Between these five projects, an average of 746 local hires (technicians, actors, and extras)were made per project. Project hires ranged from 69 persons to 2,198 persons. Additionally, the number of local vendors used by each project is tracked. On average, nearly 860 Maryland vendors per project were positively impacted by the incentive applicant projects—ranging from 338 to 1,814 Maryland businesses and vendors.[24] Production activity is summarized in Figure 1.

Figure 1: Production Activity

Activity	Average	Minimum	Maximum
Tax Credit Amount	$3,321,871	$231,250	$11,676,029
Production Expenditures	$16,821,480	$962,531	$63,680,906
Maryland Hires	746	69	2,198
Technicians	*156*	*32*	*381*
Actors/Extras	*590*	*37*	*1,817*
Maryland Businesses/Vendors	857	338	1,814
Maryland Hotel Nights	2,952	79	9,479

Source: Maryland Film Office

On average, the five projects that utilized the tax incentive program in Maryland had expenditures of nearly $16.8 million per project. Production expenditures ranged from less than $1.0 million to $63.7 million. The average incentive amount per project was approximately $3.3 million.

Based on information provided by Cast and Crew Entertainment Services, a leading provider of payroll services in the film/television industry, film incentives fall into three general categories: rebates, grants, or tax credits. [25] Often, tax credits are provided. Film tax credits come in a variety of forms: refundable, non-refundable, transferable, or non-transferable.[26]

[24] Catherine Batavick, email attachment to author, August 29, 2013.
[25] Cast and Crew Entertainment Services, "The Incentives Program: United States, Canada and United Kingdom," 5.
[26] Flippen, et al "Beyond the Basics," 1.

What Maryland offers is "a refundable income tax credit of up to 25 [percent] of qualified direct costs of a film production activity" and up to 27 percent for television series.[27]The slightly higher incentive for television series was added at the recommendation of the *Report of the Film Production Workgroup* in 2009. It is vital to encourage television series to film in Maryland as they have the ability to "[provide] employment for a longer period of time for many Maryland workers and [support] hundreds of small businesses in Maryland."[28] This policy "would give Maryland a competitive advantage over other states."[29] Since enactment of the *Film Production Employment Act of 2011,* HBO's *Veep* and Netflix's *House of Cards* have commenced production in Maryland.

For the purposes of this study, RESI analyzed the economic and fiscal impacts of the five projects that have received a tax credit as part of the *Film Production Employment Act of 2011* to date. Filming for these projects took place during CY 2011 and CY 2012. The projects analyzed included two television series and three feature films. Inputs for the analysis used to determine the economic and fiscal impacts were provided by the Maryland Film Office and through RESI's findings from a review of relevant publicly available documents. The economic impacts include employment, output, and wages. The fiscal impacts include state and local tax revenues (property, income, sales, payroll, etc.). RESI used information provided on these productions to make assumptions for future productions and determine impacts for CY 2013 through CY 2015.

In addition to the quantitative analysis of these projects, RESI conducted a thorough review of the history of filming in Maryland, existing literature regarding incentives in Maryland, and existing literature regarding incentives in other states. The literature review focused on states with successful tax credit programs, many of which are significantly larger (i.e., non-capped programs) than Maryland's program. The comparison determined whether or not the size of the credit has exponential impacts on the state, and was used to assess the competitiveness of Maryland's existing program.

3.0 Sample Incentive Programs

A comparison of Maryland's incentive programs with similar programs in other states determined similarities and differences between Maryland's program and the programs of other states. Specifically, RESI focused on Louisiana, Georgia, and Massachusetts. Like Maryland, each of these states utilizes a tax credit program. However, while Maryland has an annual cap in place, the programs in Georgia, Louisiana, and Massachusetts are uncapped. Of the states researched, Maryland and Massachusetts are the only two with a sunset date in effect for their incentive programs.

[27] The Maryland Film Office, "Film Production Activity Tax Credit."
[28] Film Production Workgroup, "Report of the Film Production Workgroup," 3.
[29] Ibid.

3.1 Incentives and Filming in Maryland

Maryland's natural beauty, distinct neighborhoods, and many resources—including a wide variety of scenic landscapes, architectural backdrops, and a talented workforce—have drawn film and video productions into the state.[30] In addition to the state's natural incentives, the Maryland Film Office and the Baltimore Film Office further promote the local film industry by providing services and incentives to production companies considering filming in Maryland. Through their respective websites, the Maryland Film Office and the Baltimore Film Office provide libraries of photographs of the many locations considered ideal for filming and a local crew and resources directory for out-of-state companies.[31] [32] The Maryland Film Office provides a bulletin board advertising in-state opportunities as well.[33] Frederick and Prince George's Counties also have film offices promoting their respective regions.[34] [35]

Maryland has hosted a number of prominent film projects over the years, boasting film credits dating back to the early 1900s.[36] The two most recent well known series filmed in Maryland are *Veep* and *House of Cards*, filmed during CY 2011 and CY 2012. Season one of *House of Cards*, a Netflix television series, filmed for a reported 139 days in CY 2012.[37] Season one of *Veep*, an HBO series, filmed in the state in CY 2011 for 38 days, in addition to the pilot episode, which filmed for a reported six days in Maryland.[38]

HBO has filmed a number of original series and films in Maryland, some of which fall under the previous rebate program.[39] Adding to the list of political features filmed in Maryland, HBO's *Game Change*, released in 2012, documents John McCain's 2008 presidential campaign and the implications of his choice of running mate, Sarah Palin.[40] *The Wire*, a popular HBO series created by former Baltimore Sun employee David Simon, was also filmed in Maryland from its inception in 2002 until its fifth and final season filmed in 2008.[41]

A number of movies filmed in Maryland were some of the top grossing movies of their release years in the domestic market. Some of those include *The Blair Witch Project* and *Runaway Bride*

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[30] The Maryland Film Office, "Welcome!"
[31] Ibid.
[32] Baltimore Film Office, "Baltimore Film Office."
[33] The Maryland Film Office, "Welcome!"
[34] Frederick Film Office, "The Film Office of Frederick MD."
[35] Prince George's Arts and Humanities Council, "Prince George's County Film Office."
[36] Maryland State Archives, "Maryland at a Glance, Arts."
[37] The Maryland Film Office, "Economic Impact of Filmmaking on the Maryland Economy."
[38] Ibid.
[39] Sage, "An Economic Assessment of Maryland's Film & Television Production Industry and Policy Implications." 21.
[40] IMDb, "Game Change."
[41] IMDb, "The Wire."

in 1999 ($141 million and $152 million, respectively) and *Wedding Crashers* in 2005 ($209 million).[42]

The Maryland Film Office has tracked films, television series, documentaries, commercials, and other projects through applications for sales tax exemption, applications for production rebates or tax credits, and submissions of production expenditure forms. The economic impacts of projects have been calculated for each FY since FY 1995. The average annual impact of filmmaking has been $76.0 million, with major projects filming an average of roughly 30 days in Maryland. [43] The economic impact of filmmaking in Maryland was $123.5 million for FY 2012, a nearly 95 percent increase from the previous year. In addition, the FY 2012 impact was the highest reported by the Maryland Film Office since FY 2006. The impacts in FY 2006 were determined to be $158.0 million, with fourteen projects such as *Step Up*, *The Wire* (season four), *The Visiting*, and others filmed in Maryland that year.[44]

Due to the ease of filming in Maryland, locations within the state frequently stand in for the District of Columbia; instances of this can be seen in *Veep* and *House of Cards*, where Baltimore City stood in for the District of Columbia. DBED estimated the second season of *Veep* to have an economic impact of more than $40 million.[45] *House of Cards*, which began filming in Maryland in May 2012, transformed the Maryland House of Delegates chamber to act as the United States Senate rather than film onsite in DC.[46] The Maryland Film Office estimated that season one of *House of Cards*, resulted in $140 million in economic impact for the state.[47]

While RESI studied the economic and fiscal impacts associated with the *Film Production Employment Act of 2011*, using data existing data from five projects that have already claimed the tax credit under the new program, Sage Policy Group, Inc., previously studied the impacts of the motion picture and video industry as a whole.[48] In 2010, Sage prepared a report that provided an assessment of the economic impacts of the film and television production industry on Maryland. The report was commissioned by DBED to assist in responding to a request in the Joint Chairman's Report from the Chairs of Senate Budget and Taxation Committee and House Committee on Appropriations.

Sage's study found that in 2008 impacts of the motion picture and video industry as a whole totaled more than 11,000 FTE jobs and nearly $300.0 million in wages and supported $1,329.0

[42] The Numbers, "All Time Highest Grossing Movies in the Domestic Market."
[43] The Maryland Film Office, "Economic Impact of Filmmaking on the Maryland Economy," 1–2.
[44] Ibid.
[45] Pyles, "Eye on Annapolis: Tax credit keeps 'Veep' filming in Maryland."
[46] Cox, "'House of Cards' to take over Senate House."
[47] Ibid.
[48] The key differences between Sage's study and RESI's: Sage analyzed the entire motion picture and video industry and used the IMPLAN input/output model, whereas RESI analyzed only those projects associated with the Film Production Employment Act of 2011 and used the REMI PI+ input/output model.

million in business sales.[49] Sage utilized IMPLAN, an input-output model, to determine the economic impacts of the industry in Maryland.[50] Unlike REMI, which RESI used in its analysis, IMPLAN is a static model, meaning that changes in a previous period are not accounted for in future years. The model negates price changes from increased levels of economic activity and treats resources as infinite. The following findings from RESI use REMI—a dynamic model that includes price and wages changes over time, labor supply constraints, and forecasts future economic outcomes.

3.2 Incentives and Filming in Other States

Prior to 2000 many productions left the United States in favor of Canada due to the relative strength of the U.S. dollar and financial production incentives offered in Canada.[51] This phenomenon became known as "runaway production."[52] By the early 2000s, states across the country began to take notice. After observing Canada's recruitment of moviemakers away from New York and Los Angeles, states began to develop their own incentive programs to attract productions.[53] According to Entertainment Partners, financial incentives for film and television productions are now offered in 46 states.[54]

Due to the vast positive economic impacts of film and television production, the competition to attract production companies has steadily increased—as evidenced by the increased number of available film incentives. In recent years, productions have been leaving Los Angeles County as-cost-conscious producers routinely choose to film in more tax friendly states.[55] Even *The Tonight Show*, which has called Los Angeles home for 40 years, plans to leave for New York City to take advantage of its tax incentives.[56] In 2005, 80 percent of network dramas were based in Los Angeles, a percent which dropped to 50 percent in 2010 and further to less than 10 percent in 2012.[57]

To gauge the competitiveness of Maryland's film tax credit incentive program, RESI analyzed other states' programs and the impacts seen due to program utilization. It should be noted that reporting methods vary from state to state. A summary of these programs can be found in Figure 2. For a summary of incentive programs for these states and others, please refer to Appendix D.

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[49] Sage, "An Economic Assessment of Maryland's Film & Television Production Industry and Policy Implications." 11.
[50] Ibid, 43.
[51] Film Production Workgroup, "Report of the Film Production Workgroup," 4.
[52] Ibid.
[53] NPR, "A Thin Line: Economic Development Or Corporate Welfare?"
[54] Somers, "Maryland gambles on film incentives with 'House of Cards'."
[55] Verrier, "Los Angeles losing the core of its TV production to other states."
[56] Nurin, "TV shows and films in N.J. can spell big pay day for tourism industry."
[57] Verrier, "Los Angeles losing the core of its TV production to other states."

Figure 2: Summary of Similar Studies[58]

State	Incentive	Jobs	Dollars (in millions) Output	Wages	Sales	Tax Revenues
LA (2012)	30% + 5% Resident Labor	14,000	Not reported	$717.9	$1,034.1	Not reported
GA (2010)	20% +10% Promo	8,800	$1,159.7	$419.9	Not reported	$125.5
MA (2011)	25% Spend 25% Payroll	2,220	$375.3	$183.0	Not reported	Not reported

Sources: Louisiana Entertainment; Scott & Associates; Georgia USA; Meyers, et al; Massachusetts Film Office; HR&A

Louisiana

Since 2006, Louisiana has been home to more than 300 film and television productions and comes in third in production after California and New York.[59] In 2013, feature film production in Louisiana increased—during the year multiple television series came to Louisiana as well.[60] According to a study completed by Loren C. Scott & Associates, Inc., the impact of film production spending in Louisiana for CY 2012 amounted to more than $1.0 billion in sales, $717.9 million in wages, and more than 14,000 jobs.[61] The same study determined that the impact of film infrastructure spending for CY 2012 totaled $37.4 million in sales, $11.8 million in wages, and 294 jobs.[62]

Georgia

Since 1972, Georgia has hosted more than 700 film and television productions—making it one of the top five production destinations in the country—and generated more than $7.0 billion in economic impact.[63] Some of the films recently shot in Georgia include *Joyful Noise* and *American Reunion.*[64] Since 2008, more than 30 industry-specific supplier companies have expanded or relocated to Georgia, helping the state's entertainment industry to expand and employ more than 25,000 residents.[65] A study performed by Meyers Norris Penny, LLP, on the impacts of productions that have been approved to receive the tax credit, determined that the impacts of production spending in 2010 totaled nearly 8,800 jobs, more than $419.9 million in

58 Some figures are rounded.
59 Louisiana Entertainment, "Overview."
60 Louisiana Entertainment, "Screening Room."
61 Scott & Associates, "The Economic Impact of Louisiana's Entertainment Tax Credit Programs," 16.
62 Ibid, 17.
63 Georgia USA, "Georgia Film and TV Facts."
64 Ibid.
65 Ibid.

wages, more than $1,159.7 million in output, and over $125.5 million in state and local tax revenues.[66]

Massachusetts

Massachusetts has four film and television credits to its name already for 2013, nine from 2012, and eight from 2011.[67] The Motion Picture Association of America (MPAA) commissioned a study on the impacts of the film tax incentive program for 2011.[68] HR&A Advisors, Inc., which conducted the study for MPAA, estimated that the Massachusetts Film Tax Incentive Program supported approximately 2,220 FTE jobs, $183.0 million in wages, and $375.3 million in output in 2011.[69]

3.3 Previous Programs and Studies

Some states, such as Connecticut and Wisconsin, have recently ended or modified their incentive programs.[70] Effective July 1, 2013, incentives for feature films have been suspended in Connecticut for two years as the state attempts to mitigate its projected deficit.[71] However, television and digital animation in Connecticut are to continue to receive incentives.[72] Numerous reforms to Wisconsin's tax code were included in a May 2013 bill—among them was the elimination of film tax credits.[73] The bill estimated that eliminating "the film tax credits in 2014 would reduce [General Purpose Revenue] expenditures by $500,000 in 2014-15."[74]

Some previously aggressive programs, such as Michigan and New Mexico, have recently cut back on incentives. In 2008, Michigan's film industry boomed with the creation of its original film incentive—the program offered a rebate of up to 42 percent on production expenditures and had no cap.[75] In FY 2012, a cap of $25 million was implemented.[76] However, the cap was raised to $50 million in FY 2013.[77] Senate Majority Leader Randy Richardville (R-Monroe) explained the changes as being "designed to help make sure more of the incentive money comes back to or stays with the Michigan economy."[78] Similarly, in New Mexico, lawmakers compromised at an incentive program of 25 percent with a cap of $50 million a year—a drop from the nearly $66 million in incentives paid out in 2010.[79]

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[66] Meyers, et al, "Economic Contributions of the Georgia Film and Television Industry," 9.
[67] Massachusetts Film Office, "Filmography."
[68] HR&A, "Economic Impacts of the Massachusetts Film Tax Incentive Program," 4.
[69] Ibid.
[70] Somers, "Maryland gambles on film incentives with 'House of Cards'."
[71] Loh, "Closing credits: CT sours on movie incentives."
[72] Ibid.
[73] Drekard, "Wisconsin Plan Cuts Rates, Broadens Bases, Improves State Business Tax Climate."
[74] Lang, "Tax Reform Proposal-Final," 11.
[75] Eichler, "With Film Incentive Capped, Michigan's Movie Jobs Face An Uncertain Future."
[76] HuffPost Detroit, "Michigan Film Industry Expected To Receive Extra $25 Million In 2013 Budget After 2012's Steep Cuts."
[77] Ibid.
[78] Martin, "Making movies: Michigan film incentive program likely to stay at $50 million as part of budget plan."
[79] Block, "New Mexico State Senate Votes to Preserve Film Tax Credit Program."

A multitude of studies have analyzed the economic impacts of the film industry and film incentives, each with their own unique methodology. For instance, the study submitted by Sage in 2010 "did not take into account items such as capital construction, the time value of money, increased tourism, or the economic benefit of incented production activity on indigenous film and television industry in Maryland," all of which would have increased the impact and, therefore, the ROI.[80] Other reports, such HR&A's report on the impact in Massachusetts, used collected production spending for both payroll and non-payroll expenses. It should be noted that for spending on individual salaries over $1 million, only the direct economic impacts were taken into consideration.[81]

4.0 Public Opinion

Local media and state and national organizations have covered the topic of the use of tax credits and rebates to incentivize production in Maryland and other states. Support has come from both Democrats and Republicans.

The Maryland General Assembly unanimously supported the passage of the *Film Production Employment Act of 2011*.[82] Governor Martin O'Malley (D) recently touted the benefits of production activity in Maryland. O'Malley announced that the first season of *House of Cards* had an economic impact of $140 million in Maryland, and created 2,200 jobs in the state.[83] O'Malley's has been cited stating that the availability of film tax credits drew the production in, making the vast impacts possible.[84] In the 2013 "Maryland Department of Business and Economic Development Annual Report" O'Malley cites investment in film incentives as one of the keys to Maryland creating "more jobs, more opportunities and a stronger middle class."[85]

In Maryland, support for film production incentives has been bipartisan. Former Governor Robert Ehrlich (R), a long-time supporter of film production incentives, praised the industry during his gubernatorial bid for a second term, when he campaigned to increase in Maryland's film production incentives.[86] Ehrlich has been quoted as stating that "Most of Maryland doesn't understand the economics of this industry…There's no downside this industry brings to the state; it's all upside."[87]

The Maryland Film Office has received numerous letters expressing support for the program, eight of which were shared with RESI.

[80] Film Production Workgroup, "Report of the Film Production Workgroup," 8.
[81] HR&A, "Economic Impacts of the Massachusetts Film Tax Incentive Program," 20.
[82] General Assembly of Maryland, "Explanation of Motions and Actions SB 672."
[83] Zurawik, "'House of Cards' brings $140 million to Maryland, state says."
[84] Ibid.
[85] Maryland Department of Business & Economic Development, "Maryland Department of Business and Economic Development Annual Report 2013," 1.
[86] Dance, "Ehrlich vows to restore Maryland's film incentives fund."
[87] Ibid.

4.1 Incentive Opposition

In contrast with the history of bipartisan support for film production incentives seen in Maryland, film incentive programs have recently received some opposition. Maryland Delegate Mark N. Fisher, Calvert County Republican, recently questioned what he characterized as the subsidizing of Hollywood productions. While supporters feel the tax credits directly benefit Maryland workers and businesses, Fisher questions why tax credits are not given directly to local businesses. Fisher was quoted as saying that it was "odd and troubling" for the state to provide $40 million over three years to studios outside the state, and not provide tax credits for small businesses and persons residing locally.[88] However, the film industry has been repeatedly cited as increasing employment in the state for local union and non-union film professionals and for providing an economic boost for small businesses in Maryland.

Pointing to several states that have reconsidered film incentives, Eileen Norcross, a senior research fellow with the Mercatus Center at George Mason University, said that these incentives "don't bring in as much in-state jobs and income as anticipated," and they are not "the economic generator that they advertise it to be."[89] Massachusetts Representative Angelo M. Scaccia has referred to film tax credits as "a slippery slope." Scaccia elaborated by explaining that while such incentives worked when only a few states offered them, now each state strives to "make it even more attractive to these folks to do a film in that state."[90] However, competition is part of a healthy economy, and the film industry brings more to a community than direct economic impact. In fact, some areas mourn the loss of production activity—such is the case with Albuquerque, New Mexico, when the television series-*Breaking Bad* recently concluded production activity.

4.2 Support and Testimony

Even those who generally oppose such programs have spoken out in favor of film incentives. While criticizing tax breaks and other government support for industries such as banking and agriculture in an interview, Oliver Stone defended them for Hollywood. The director said that many movies can be shot anywhere, but wherever that may be, actors and crew members have to pay state income taxes. "It's good," Stone said of film incentives.[91]

A number of the more than 4,000 positively impacted businesses in Maryland have written in support of legislation on the tax credits that attract filmmaking projects to the state. The personal accounts describe benefits from the industry's in-state spending on local businesses that sell or rent goods and services essential to the production process. RESI received testimonials from various supporters, including the owners and managers of furniture and consignment stores, rental car services, hotel and lodging facilities, and others providing products and services during production, the results of which are summarized below.

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[88] Somers, "Maryland gambles on film incentives with 'House of Cards'."
[89] Ibid.
[90] Ibid.
[91] Story, "As Companies Seek Tax Deals, Governments Pay High Price."

A provider of lumber and materials to productions such as *Veep* and *House of Cards* expressed support of increasing the cap for tax credits in Maryland due to its recent increase in employment, expansion of its main warehouse, and addition of a high end showroom; all of which was a direct result of business it received from the film industry. These major improvements resulted in this Maryland business being approached by major manufacturers to act as a distributor in Maryland—an opportunity that will have long-term benefits.[92]

A majority of the businesses supporting the tax credit cited the film industry's main benefit as allowing them to diversify their client base and stabilize their revenue stream, thus enabling those businesses and the many others they support to better recover from the economic decline experienced in recent years. Letters from retail and wholesale businesses in and around the Baltimore area attributed their ability to stay in business to the opportunity to work on the sets of major productions when demand for its other business segments were not growing.[93]

In addition to the direct effects of room nights and spending within the property, hotel and lodging facilities noted the indirect benefits received by other businesses when productions' cast and crew members stay in their rooms. Nearby restaurants and shops received business from these guests, and both the hotel and these businesses have potentially built valuable networks to receive future business from the film industry if Maryland can maintain its attractiveness to such productions.[94]

4.3 Key Interviews

In addition to submitted testimony, RESI spoke directly with several locally impacted business owners and industry personnel. One interviewee is the owner of multiple local post-production businesses. This source cited the defunding of Maryland's previous incentive program with nearly destroying the filming community in Maryland. However, the community is undergoing a revival with the help of the newly instated tax incentive, and an observable uptick in local production can be seen in the past few years. The filming community requires a vast amount of personnel, who in turn contribute to local businesses, the economy, and tax revenues. According to this source, it is not about the big productions brought in by incentives, but the healthy business environment they help create.[95]

Another interviewee, Thomas B. Riford, President and CEO of Hagerstown-Washington County Convention and Visitors Bureau, spoke out about the impact of filming in Western Maryland. Riford points to 2003's *Gods and Generals*, which was determined to have had an impact of more than $10 million on the local economy, to explain an uptick in visitors to local historical sites following the movie. Also due to production of the film, two local companies were

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[92] Jack Gerbes, e-mail attachment to author, August 28, 2013.
[93] Ibid.
[94] Ibid.
[95] Confidential communication with author, September 23, 2013.

developed, one of which has since grown to be a production company. Since the film's release a decade ago, more than 30 projects have been filmed in the area.

Among the small projects filmed in Washington County, *Lovely Molly*, which was filmed in 2010, had an estimated impact of $1 million, while earlier projects *We Fight to be Free* and *Fields of Freedom* helped to fill local hotels and contributed to local spending. Riford has provided testimony pertaining to tax incentives multiple times. Most recently, in 2013, Riford stated:

> It is critical that our state increases the available tax credits and extends the sunset for film incentives. The economic boost from film projects is significant, and important to our local Washington County economy. Nearly ten percent of our county's employment comes from the Leisure and Hospitality sector, and film projects help add and maintain jobs.[96]

RESI also spoke with Producer Nina Noble. Ms. Noble moved to Baltimore after working here on productions like *Homicide: Life on the Street*, *The Corner*, and *The Wire*. While filming in Baltimore, Ms. Novel feels that her production teams became an influential part of the community. While filming *The Corner*, the production team hosted an event for children each week, at which food and entertainment were provided. Attendance at each event averaged 350. During filming for *The Wire*, production occupied an abandoned Sam's Club. The presence of production and the security surrounding it helped lower crime in the neighborhood and alleviate residents' concerns about safety. Through *The Wire*, more than $500,000 has been raised for the Ella Thompson Fund, which goes to recreational programming for children in West Baltimore.

Production companies and crews not only enhance communities through involvement and charity efforts, but also host internship programs. This opportunity provides children with work experience and positive role models and exposes them to alternatives to college for their future careers.[97]

5.0 Film-Induced Tourism

On September 9, 2013, actor James Van Der Beek took to Twitter with a request that fans traveling to North Carolina please not visit "Dawson's house," from the popular television show *Dawson's Creek*, as it is someone's private residence.[98] The phenomenon of people flocking to a building or place after an appearance in a popular film or television show is known as "film-induced tourism." Film-induced tourism is described as the following: (1) People visiting the locations where actual filming occurred; (2) people visiting locations represented in the film,

[96] Thomas B. Riford, email to author, September 23, 2013.
[97] Nina Noble, conversation with author, September 26, 2013.
[98] Van Der Beek, "James Van Der Beek."

but were not the actual filming location; and (3) people attending attractions that simulate the experiences from a film (for example, Universal Studios or the Walt Disney parks).[99]
When a location appears in popular productions, the scenes from that production have the potential to create icons out of once little known places and sights.[100] Dawson's house in North Carolina is just one example of such film-induced tourism. Portions of the community in Mount Airy, North Carolina, were completely remade to simulate the town of Mayberry—the fictional town based on Mount Airy where Andy Griffith was born and raised. Marketing for Mount Airy refers to the community as the "real life Mayberry."[101]

The city of Albuquerque, New Mexico, where AMC's *Breaking Bad* has filmed since 2007, has seen a jump in tourism. Local burrito restaurant Twisters, which doubles as the shows popular chicken restaurant, saw more than 100 visiting fans during a single week in September 2013, the same month the show aired its series finale.[102] Similarly, a large portion of the filming of the 1987 film *Dirty Dancing* took place in the town of Lake Lure, North Carolina. In 2010, the Dirty Dancing Festival was founded and attracted over 1,000 visitors to the area. Now in its third year, the event works with charitable organizations and state and county tourism offices and continues to attract hundreds of dancers and film fans to Lake Lure.[103] More than 25 years after its release, the positive economic impacts of this single film continue to benefit the community where filming took place.

Several areas in Maryland have benefited from or capitalize on film-induced tourism. The town of Berlin, Maryland, is one such location. Not one but two major motion pictures were filmed in Berlin. Visiting Berlin's website, it proudly advertises on its "About the Town" page that the town and hundreds of Berlin locals were extras featured in the films *Runaway Bride* in 1998 and *Tuck Everlasting* in 2001. Berlin was transformed into "Hale, Maryland" for *Runaway Bride* and "Treegap" in *Tuck Everlasting*.[104] The Inn at Perry Cabin in St. Michaels, Maryland, appeared in *The First Kiss* in 1928 and *The Wedding Crashers* in 2005—a fact boasted on its website.[105] Following the release of *The Wedding Crashers*, fans have flocked to the Inn for their own weddings.[106] The St. Michaels area has acted as a backdrop for a number of other films (*Failure to Launch*, *Swimmers*, *Silent Fall*, and more).[107] As seen with *Dirty Dancing*, films can have a lasting impact on tourism in the location they are filmed.

Outside of simply appearing in a film, locations (and local business) benefit from attention from the stars who rave about them. Jane Fonda, Julia Louis-Dreyfus, and Kevin Spacey have all

[99] Alderman, et al., "Transforming Mount Airy into Mayberry," 213.
[100] Riley, et al., "Movie Induced Tourism," 920.
[101] Alderman, et al., "Transforming Mount Airy into Mayberry," 215.
[102] Martin, "Breaking up with 'Breaking Bad' Is Hard for Albuquerque."
[103] The Dirty Dancing Festival, "About the Dirty Dancing Festival."
[104] Town of Berlin, Maryland, "About the Town."
[105] The Inn at Perry Cabin, "The Hotel: Weddings & Honeymoons."
[106] Shay, "Stars shine in Maryland, as state pulls in more film and TV productions."
[107] IMDb, "Most Popular Titles With Location Matching 'St. Michaels, Maryland, USA'."

spoken highly of Maryland's cities, venues, and workforce, based on their experiences in Maryland while working on productions that Maryland's *Film Production Employment Act of 2011* attracted. Following filming of *Better Living Through Chemistry*, Jane Fonda posted on her blog about "how utterly charming" Annapolis is.[108] Jane Fonda has been referred to as "Annapolis' newest ambassador."[109] In 2013 Julia Louis-Dreyfus remembered to thank the show's "wonderful crew in Baltimore" when she won an Emmy for her performance on *Veep*.[110] When Kevin Spacey has free time, he likes to take in the local culture and enjoy a good meal; in 2012 he listed his favorite restaurants for Men's Journal.[111] An Annapolis restaurant, Metropolitan Kitchen & Lounge, made the cut.[112] Spacey referred to it as "a very cool place." [113]

The majority of research on the topic is anecdotal; however, a growing number of researchers have attempted to identify actual economic impacts around film-induced tourism. In a study authored by Riley, Baker, and Van Doren, research focused on providing measurable and quantitative evidence of film-induced tourism. The authors provided several examples of movie locations that benefit from short- and long-term tourism impacts. The naturally scenic Chimney Rock Park in North Carolina was featured in *The Last of the Mohicans*, and, following the movie's release, park attendance increased by 25 percent over the year.[114] The Devil's Tower National Monument in the Black Hills of Wyoming made an appearance in *Close Encounters of the Third Kind*, creating a short-term increase in visitation by 74 percent. Twelve years later, a survey of visitors to the monument revealed that over 20 percent of visitors knew of the Devil's Tower from watching the movie.[115]

To determine film-induced tourism in Maryland, RESI used tourism data for North Carolina associated with film and total tourism spending from 2010 and 2011. For more information on this method, please refer to Appendix B. RESI estimated that on average a production may add $1.1 million to tourism spending, less and 0.01 percent of Maryland's total tourism spending.

6.0 Methodology

RESI used the REMI model to determine the economic inputs of employment and expenditures from the five projects that received a tax credit under the *Film Production Employment Act of 2011*. Inputs were determined by data provided from MFIC and through the literature review.

Economists use a variety of tools to analyze economic impacts. Two tools in particular are REMI PI+ and IMPLAN. Each tool has its own merits and limitations, but there is a key difference.

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108 Fonda, "Better Living Through Chemistry."
109 Rosen, "Jane Fonda smitten with Annapolis."
110 TV News Desk, "Julia Louis-Dreyfus Wins Emmy for Lead Actress in a Comedy Series."
111 Brendel, "Kevin Spacey's Favorite Late-Night Restaurants."
112 Ibid, 2.
113 Ibid.
114 Riley, et al., "Movie Induced Tourism," 923.
115 Ibid.

REMI PI+ is a dynamic model, meaning that prices and wage effects are forecasted into the impacts over time. Furthermore, there are supply constraints associated with the model, and therefore REMI provides a picture of what may happen over time. IMPLAN is a static model with more detailed industries. A static model allows economists to determine impacts in a single year given expenditures, investment, or changes in economic activity.

The dynamic aspect of REMI allows state agencies, private consultants, and public entities to determine tax impacts in a following period if economic activity happens in the preceding period. The tool is often used in tax analysis, or long-term analyses that involve several years of expenditures for a project. Under IMPLAN, the revenues forgone by the state would happen in the same period as the expenditures. Since tax credits are not fully realized by states until the preceding calendar year, the impact from state tax credits being claimed in the same year as the production may over- or understate the true impact if there are productions occurring in a year a tax credit is claimed.

RESI uses REMI PI+ to model the impact on Maryland from a film tax credit claimed and the industry's increased expenditures within the region.

6.1 REMI vs. IMPLAN Case Studies

In 2009 the Massachusetts Department of Revenue conducted a study of the state's current tax incentive program using REMI. The analysis determined that the tax credits reduced tax revenues for the state from FY 2007 through FY 2009.[116] Under Massachusetts law, tax credits can be transferred and are often sold to other entities if a production does not use all of its allocated credit.[117] An update to the report for Massachusetts in 2013, using REMI, noted that in FY 2012 the state paid $55.6 million in tax credits but only issued $44.0 million in CY 2011.[118] The additional claimed credits were for prior year productions in Massachusetts that had not been claimed to date to offset tax liabilities. [119]

A 2008 report from Connecticut's Department of Economic and Community Development determined, using IMPLAN, that the state's former film and tax incentive program generate $1.07 in output for every $1.00 of tax credits issued.[120] This finding indicates a positive economic impact on generating increased activity within the state between FY 2006 and FY 2012. The study found the program would generate an additional $0.08 for every dollar claimed under the film tax credit over this period, an ROI of $1.08.[121]

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[116] Bal, "A Report on the Massachusetts Film Industry Tax Incentives." 2.
[117] Ibid, 6.
[118] Pitter, "A Report on the Massachusetts Film Industry Tax Incentives," 1.
[119] Ibid.
[120] Department of Economic and Community Development, "The Economic and Fiscal Impacts of Connecticut's Film Tax Credit," 33.
[121] Ibid, 39.

In a 2011 report on South Carolina's film tax incentives, using IMPLAN, AECOM found productions generated $6.6 million in fiscal impacts and $21.0 million in rebates claimed for a net loss of $14.4 million.[122] Under South Carolina's withholding policy, qualified productions are responsible for a maximum withholding rate of 2 percent for earners making top salaries associated with the productions (producers, directors, etc.)[123] Had South Carolina subjected productions to the state withholding rate of 9 percent, South Carolina could have collected an additional $1 million in tax revenue.[124]

6.2 Return on Investment

ROI has often been a contested issue with film tax credit programs. Depending on the researcher's tool, results can vary. As a static tool, IMPLAN is better for a single-year projection, but a tax credit often is not claimed in the same year of designation. This can lead to a discrepancy in the calculation of ROI. A time-series approach to the ROI would yield a more precise return, as the credits may be claimed in a different year than the initial year of designation toward a production.

Several studies have analyzed film tax credits, some using IMPLAN and others using REMI. However, the ROI of these tax credits have varied over time and across states. In specific cases, the analyses reviewed ROI as state output to tax credits awarded or additional tax revenues to tax credits awarded. The varied comparisons—tax credits against tax revenue, or tax credits against output—has caused reported tax credit ROI to vary greatly. Reported ROI, tax revenue lost or gained, varies from $0.13 to $5.71 for every $1.00 of tax credit awarded.[125]

The gains on investment from REMI may be slightly smaller as constraints associated with specific industries are reached within the model. For example, if Maryland has few suppliers of technical lighting, the incentive may be there to move in over-time if the industry becomes lucrative, but in the current period there may be a shortage. IMPLAN does not assume shortages, and therefore assumes local supply would meet that demand. REMI also accounts for price changes over time, therefore changing the cost to intermediaries or final production for goods and services. IMPLAN does not account for price changes associated with increased demand over time, and therefore may overstate the level of future economic activity.

RESI reviewed the tax credits for productions under the current tax credit program scenario and assumed the year in which a production would claim the credit would be lagged by one year. Therefore, if a production films in CY 2011 and wraps in that same year, it would claim the tax

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122 AECOM, "Analysis of South Carolina's Film Incentives," 25.
123 Ibid, 31.
124 AECOM, "Analysis of South Carolina's Film Incentives," 31.
125 Nott, "A Comparative Case Study of the Economic Competitiveness of the Film, Television, and Digital Media Tax Credit," 2.

credit in the following CY. Thus, the additional tax revenues reported for in CY 2012 would be the gain.[126] The formula used for the calculation is as follows:

$$\boldsymbol{Return\ on\ Investment\ (ROI)} = \frac{\boldsymbol{Tax\ Revenues\ (or\ Output)}}{\boldsymbol{Credits\ Claimed}}$$

RESI used the above formula to calculate the average return on investment of the program from CY 2012 through CY 2015. For tax revenue generated, RESI averaged the ROI of each CY (2012–2015) to obtain the average ROI of the program. However, the yearly ROI seen in respect to additional output generated fluctuates greatly. To counter this and provide a more conservative ROI, RESI calculated ROI as the total output generated over total credits claimed (CY 2012–2015). As the size and number of productions increase, the total expenditures within a single CY need to equal or exceed the credits claimed year for the program to receive a positive ROI.

7.0 Findings

Data and information provided by the Maryland Film Office were used to determine the local economic impacts generated on a CY basis by a selection of film projects that have received the tax credits in Maryland. Specifically, RESI used quantitative economic and fiscal data to estimate the impacts. The economic impacts include employment, output, and wages. The fiscal impacts include state and local tax revenues (property, income, sales, payroll, etc.). In addition to the provided data, RESI estimated the impacts of film-induced tourism on the local economy.

RESI analyzed three movies and two episodic television series filmed in Maryland: *Better Living Through Chemistry*, *Jamesy Boy*, *Ping Pong Summer, House of Cards* (season one), and *Veep* (season one). Filming primarily took place in CY 2012, while one project filmed in CY 2011. To conduct the analysis of the impacts generated by these film projects on the local community, RESI considered the total spending for each of the projects. RESI utilized average spending per the provided productions to estimate spending of future productions.

7.1 Scenarios

The scenarios presented in the economic impacts section are as follows:

1. "Current Tax Impacts,"
2. "Doubling the Tax Credit Cap," and
3. "Removing the Tax Credit Cap."

[126] RESI negated the inclusion of CY 2011 and CY 2016 to create a balanced report of productions and tax credit claims. CY 2011 reported one production receiving a tax credit, but its claim would not occur until CY 2012. CY 2016 would include tax credits claimed for productions in CY 2015, but no additional productions if the program ends in FY 2016.

Under the current tax credit cap, RESI has reviewed and estimated the impacts associated with five productions occurring in Maryland from CY 2011 through CY 2012.[127] During that time, these productions applied for and were approved to receive the tax credits. Although a production may occur in CY 2011 or CY 2012, RESI estimated the impacts based on the productions claiming the tax credits (receipt of tax credit refunds) in the following CY. It should be noted that under the current incentive program, credits cannot be allocated past July 2016.[128]

RESI took the elimination of future incentives into consideration during analysis. Productions occurring in CY 2013 through CY 2016 have not filed taxes yet; therefore, their expenditures are unknown to RESI. Expenditures for these productions were estimated based on data received from DBED and prior year production expenditures.

The proposed "Doubling the Tax Credit Cap" scenario reviews the impacts to Maryland's economy if the tax credit cap had been doubled between CY 2011 and CY 2016. Under this scenario, RESI increased the potential tax credit award from $7.5 million to $15 million for productions filming in the state. Similar to the previous scenario, expenditures were calculated for the potential filming dates, and, based on Maryland spend estimates, determined for potential awards of tax credits. RESI ran this scenario, with tax credits being claimed in the subsequent tax year after filming.

Finally, RESI reviewed a third scenario where the credit cap was removed and potential productions that had initially inquired to Maryland about filming credits did film here. Here, RESI only included the known number of potential productions based on inquiries. It is possible that the actual number of productions would be greater or have higher budgets. The last two scenarios highlight what Maryland may have lost due to the capped credit, and what it stands to gain if there is a legislation change in the near future.

7.2 Economic Impacts of the Current Tax Credit Program

In Figures 3 and 4, RESI assumes that the current tax credit for filming will expire and the last credits will be issued in CY 2015—credits will be issued on July 1, 2015, the beginning of FY 2016. Expenditure data for filming in CY 2013 through CY 2016 are a preliminary estimate based on the credit allocation. Figure 3 summarizes the economic impacts, and shows the average annual employment, output, and wage impacts of the productions that have and may occur under the current tax credit program. Please note that totals may not add up due to rounding. CY 2013 through CY 2016 did not have accompanying production expenditure data and therefore losses or gains may be incurred as expenditures for future productions may decline or increase. For detailed year-by-year impacts, please refer to Appendix C.

[127] RESI took only those productions that utilized the current film tax credit into consideration.
[128] Pyles, "Eye on Annapolis: Tax credit keeps 'Veep' filming in Maryland."

Figure 3: Current Tax Credit— Total Economic Impacts[129]

Impact	Direct	Indirect	Induced	Total
Employment[130]	418.5	180.6	95.0	694.3
Output	$109,315,256	$51,613,911	$39,060,833	$199,990,000
Wages	$36,789,310	$29,039,117	$20,091,572	$85,920,000

Sources: RESI, REMI

The analysis reveals that the existing five projects and potential productions under the current program have the ability to support an annual average of 694 FTE jobs, a total of nearly $200.0 million in output, and a total of more than $85.9 million in wages (an annual average of $56,487 per person[131]) in Maryland through FY 2016. Under the current program, for every $1.00 claimed in tax credits, the state sees a return of $3.69 in output.[132]

7.3 Fiscal Impacts

The REMI model also calculated the combined state and local tax impacts of the five existing projects and future potential productions based on the same inputs evaluated for the economic impacts. Figure 4 presents the total tax revenues generated in thousands of dollars by type of tax. Totals may not add up due to rounding.

Figure 4: Current Tax Credit—Total Fiscal Impacts[133]

Tax Type	
Property	$15,083,382
Income	$10,602,097
Sales[134]	$14,002,207
Payroll	$282,027
Other	$9,242,404
Total	**$49,212,116**

Sources: REMI, RESI

The results in Figure 4 show that the five existing projects and potential future projects have the ability to generate a total of more than $49.2 million in total tax revenue for Maryland. A majority of the tax revenue was generated through property and sales taxes—property tax revenue totaled nearly $15.1 million and sales tax revenue totaled approximately $14.0 million.

[129] Summed figures may not add up exactly to totals due to rounding.
[130] Employment is averaged over the lifetime of the program since this industry reflects varying lengths of employment.
[131] According to the BLS, Maryland's average annual wages per person in 2012 amounted to approximately $54,000.
[132] In this instance ROI is equal to the output generated over tax credits claimed. See Section 6.2 for more detail on ROI. See Appendix C for a breakdown of yearly tax credits allocated, claimed, and the corresponding impacts.
[133] REMI does not differentiate between state and local fiscal impacts.
[134] Some items are sales tax exempt. This was factored in during analysis.

Income, payroll, and other taxes contributed to the other $ 20.1 million in additional tax revenues for Maryland. The tax revenues reported in Figure 4 show the total tax revenues through FY 2016 and are the total tax revenues during the period before the tax credits are claimed by productions. Under the current program, the return on investment would be $1.03 in taxes for every $1.00 claimed in tax credits.[135]

7.4 Policy Analysis

If the current incentive policy were to change, Maryland would likely see an increase in film and television production. Figure 5 lists productions that reportedly opted out of filming in Maryland due to the limited incentive cap.

Figure 5: Productions Lost Due to the Low Incentive Cap

Project Title	Production Company	Estimated Budget	Filming In
Gone Girl	20th Century Fox	$35 million	Missouri
Middleton	Independent	$2 million	Washington
Banshee season one (10 episodes)	Cinemax	$35 million	North Carolina
Banshee season two (10 episodes)	Cinemax	$35 million	North Carolina
Very Good Girls	Independent	$4 million	New York
Captain America 2	Disney	$20 million	Ohio

Sources: Maryland Film Office, DBED

Production of *Gone Girl* is projected to wrap up in late October 2013.[136] While it is too early to determine the economic impacts of the film, the movie has certainly created quite the stir in Cape Girardeau, Missouri. Grocery and other food providers, as well as hotels, are speaking out in favor of the uptick in activity, noting increased business—the city has also seen improvements to local infrastructure due to production.[137] Primarily filmed near Charlotte, North Carolina, the first season of *Banshee* "is estimated to have had a direct in-state spend of more than $35 million while providing approximately 4,200 job opportunities including 250 crew positions for the state's highly-skilled film professions."[138] With *Captain America 2* Marvel is returning to Ohio. Previously Marvel filmed onsite in Ohio during production of *The Avengers*—which "is estimated to have spent $25 million in Ohio and employed more than 3,870 state residents."[139]

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[135] ROI is equal to tax revenues generated over tax credits claimed. Here, RESI reported the average of each CY's annual ROI. See Section 6.2 for more detail on ROI.
[136] DiGisi, "The major motion picture "Gone Girl" has positive economic impacts on Cape Girardeau."
[137] KFVS Web Staff, "'Gone Girl' filming benefits Cape Girardeau businesses."
[138] Rose, "'Banshee' Renewed for Second Season at Cinemax."
[139] O'Connor, "Ohio Movie Mania: New proposal and economic study say bring on the films."

Additionally, the Maryland Film Office reports that there are a multitude of productions considering filming in Maryland contingent upon the availability of incentives. Please refer to Figure 6.

Figure 6: Productions Considering Maryland

Project Title	Production Company	Estimated Budget	Projected Start
Middlesex	HBO	$30 million	Summer 2014
Hudson West	Independent	$1 million	Winter 2014
Untitled DC[140]	TNT Network	$7 million	winter 2014
A Fall from Grace	Independent	$8 million	Winter 2014
Happy Valley	Independent	$15 million	Summer 2014
Debt	Independent	$2 million	Fall 2014
Dear White People[141]	Independent	$1 million	Spring 2014
Hot Wheels	Universal	$15 million	Spring 2014

Sources: Maryland Film Office, DBED

To incorporate the tax credit associated with filming in Maryland, RESI ran the expenditures and tax credits associated with each CY in REMI PI+. RESI estimated increased productions under Scenario 2 and 3 using the list of productions that did not film in Maryland as well as those that are considering filming in Maryland. Scenarios 2 and 3 only take into account those productions that have inquired about filming in Maryland. As some productions do not consider states with little or no incentives, the number of productions could be greater than those that inquired about filming in Maryland.

Scenario 2: Doubling the Tax Credit Cap

The analysis that follows is preliminary and based on production inquiries to date. Productions contacting Maryland understand the cap is fairly low and may be fully allocated before the second day of the fiscal year. These productions are typically smaller and hope to procure any remaining incentives. Data used in the analysis here reflects extrapolation from productions equivalent in size to those under the current cap to date. However, it is feasible to assume productions of higher values may choose to film in Maryland if the cap was doubled or nonexistent.

[140] If it were picked up to go to series, the seven-episode first season would have an estimated budget of $20 million.

[141] At the time of the analysis, *Dear White People* was considering Maryland as a production location. As a result, it is included with productions considering Maryland. By the time of this report's release, the production shot elsewhere.

Figure 7: Economic Impacts—Doubling the Cap

Impact	Direct	Indirect	Induced	Total
2011				
Employment	191.8	84.0	43.5	319.4
Output	$10,717,518	$5,111,338	$3,801,145	$19,630,000
Wages	$5,138,172	$4,055,743	$2,806,085	$12,000,000
2012				
Employment	1,412.6	618.5	320.1	2,352.0
Output	$79,938,652	$37,276,929	$28,824,420	$146,040,000
Wages	$36,600,911	$28,890,407	$19,988,682	$85,480,000
2013				
Employment	682.8	290.3	155.5	1,128.6
Output	$33,959,735	$16,195,884	$12,044,381	$62,200,000
Wages	$8,452,293	$6,671,697	$4,616,011	$19,740,000
2014				
Employment	708.1	301.1	161.2	1,170.3
Output	$37,508,582	$17,888,379	$13,303,039	$68,700,000
Wages	$10,952,870	$8,645,491	$5,981,639	$25,580,000
2015				
Employment	289.1	122.9	65.8	477.8
Output	$13,518,377	$6,447,107	$4,794,516	$24,760,000
Wages[142]	-$441,026	-$348,118	-$240,856	-$1,030,000
Total				
Employment[143]	656.9	283.4	149.2	1,089.6
Output	$175,642,863	$82,919,637	$62,767,500	$321,330,000
Wages	$60,703,218	$47,915,220	$33,151,562	$141,770,000

Sources: RESI, REMI

The analysis reveals that, if the tax credit cap had been doubled and productions that wished to film in Maryland had been able to receive an incentive to film in Maryland, production activity would support an annual average of 1,090 FTE jobs, a total of $321.3 million in output, and a total of $141.8 million in wages in Maryland. Were the cap doubled, for every $1.00 claimed in tax credits, the state would see a return of $3.97 in output.[144]

[142] Wages and Output are reported as the difference over the baseline forecast. Here, the change in the wages in 2015 would be less than the forecast based on the previous year wages. Therefore, there would be annual wage decline.
[143] Employment is recorded as an average over the lifetime of the program and reflects varying lengths of employment due to the nature of work within the industry.
[144] In this instance, ROI is equal to the total output generated over total tax credits claimed. See Section 6.2 for more detail on ROI. See Appendix C for a breakdown of yearly tax credits allocated, claimed, and the corresponding impacts.

As detailed in Figure 8, by doubling the tax credit cap, Maryland could generate an additional $76.5 million in tax revenue over the lifetime of the incentive program. If the cap were doubled, the return on investment would be $1.05 for every $1.00 of tax credit claimed.[145]

Figure 8: Total Fiscal Impacts—Doubling the Cap[146]

CY	Property	Income	Sales[147]	Payroll	Other	Total
2011	$63,826	$44,863	$59,251	$1,193	$39,110	$208,244
2012	$1,494,356	$1,050,382	$1,387,241	$27,941	$915,673	$4,875,594
2013	$7,578,925	$5,327,220	$7,035,668	$141,710	$4,644,017	$24,727,539
2014	$7,158,045	$5,031,384	$6,644,957	$133,840	$4,386,121	$23,354,347
2015	$7,162,965	$5,034,842	$6,649,525	$133,932	$4,389,136	$23,370,400
Total	**$23,458,117**	**$16,488,692**	**$21,776,642**	**$438,616**	**$14,374,057**	**$76,536,124**

Sources: REMI, RESI

The significant increase in between the current tax credit cap and under the double cap occur from productions that have inquired to Maryland about tax credit, but were mostly turned away. Credits at times have been appropriated for productions that applied over more than one time period, such as a series applying for multiple seasons. This depletes the available incentives for a given year, thus creating a waiting period for credits for new applicants. With the additional available credits, more productions may apply for the incentive and increase expenditures within Maryland.

To maintain a level of profitability, the total production expenditures of all productions would need to exceed the level of credits claimed in that CY for continued economic gain. Without an increase in productions to provide expenditures to Maryland, changing the cap will only marginally change the economic impact from the tax credit.

Scenario 3: Removing the Tax Credit Cap

Under this scenario, RESI assumes that the total tax credits that can be allocated during a given year are uncapped. However, the amount that can be applied for is still subjected to the 25 and 27 percent limits for films and television, respectively. As noted in the previous scenario, a change in the tax credit funding will not marginally change the economy significantly unless accompanied by an increase in the level of production expenditures within Maryland.

As mentioned above, RESI increased production levels under the assumption that productions that have previously inquired about filming in Maryland, but opted not to, would film in Maryland if incentives were available. However, Maryland may see higher expenditures, more

[145] ROI is equal to tax revenues generated over tax credits claimed. Here, RESI reported the average of each CY's annual ROI. See Section 6.2 for more detail on ROI.
[146] REMI does not differentiate between state and local fiscal impacts.
[147] Some items are sales tax exempt. This was factored in during analysis.

productions than those that inquired, or larger budget productions from the filming industry if the program were to become uncapped. When Massachusetts changed its program in 2007 to reflect the no-cap scenario the state currently operates under today, production levels for film and television increased by an average of 30 percent.[148]

Figure 9: Economic Impact—No Tax Credit Cap[149]

Impact	Direct	Indirect	Induced	Total
2011				
Employment	191.8	84.0	43.5	319.4
Output	$10,717,518	$5,111,338	$3,801,145	$19,630,000
Wages	$5,138,172	$4,055,743	$2,806,085	$12,000,000
2012				
Employment	1,412.6	618.5	320.1	2,352.0
Output	$79,938,652	$37,276,929	$28,824,420	$146,040,000
Wages	$36,600,911	$28,890,407	$19,988,682	$85,480,000
2013				
Employment	1,444.0	614.0	328.7	2,386.8
Output	$71,487,181	$33,335,846	$25,776,973	$130,600,000
Wages	$11,689,341	$9,226,815	$6,383,845	$27,300,000
2014				
Employment	1,291.5	549.1	294.0	2,134.7
Output	$67,007,690	$31,956,926	$23,765,385	$122,730,000
Wages	$14,189,918	$11,200,609	$7,749,473	$33,140,000
2015				
Employment	1,351.2	574.5	307.6	2,233.3
Output	$74,940,727	$35,740,305	$26,578,967	$137,260,000
Wages	$21,143,577	$16,689,381	$11,547,042	$49,380,000
Total				
Employment[150]	1,138.2	488.0	258.8	1,885.2
Output	$304,091,767	$143,421,343	$108,746,890	$556,260,000
Wages	$88,761,919	$70,062,955	$48,475,127	$207,300,000

Sources: RESI, REMI

The analysis reveals that, in the absence of the tax credit cap and with productions that had initially inquired about filming in Maryland following through, the increased activity would support an annual average of 1,885 FTE jobs, a total of $556.3 million in output, and a total of

[148] HR&A Advisors, Inc. “Economic Impacts of the Massachusetts Film Tax Credit,” 7.
[149] Impacts are derived from productions that have inquired about filming in Maryland. Impacts could be greater if the program were to become uncapped.
[150] Employment is recorded as an average over the lifetime of the program and reflects varying lengths of employment due to the nature of work within the industry.

$207.3 million in wages in Maryland. Were the program uncapped, for every $1.00 claimed in tax credits, the state would see a return of $3.49 in output.[151]

As detailed in Figure 10, if Maryland's film incentive program were to be uncapped, productions in Maryland could generate an additional $153.7 million in tax revenue over the lifetime of the incentive program. If the cap was removed, then the return on investment would be $1.05 for every $1.00 claimed, given the level of data available to RESI.[152]

Figure 10: Total Fiscal Impacts[153]—No Tax Credit Cap[154]

CY	Property	Income	Sales[155]	Payroll	Other	Total
2011	$63,826	$44,863	$59,251	$1,193	$39,110	$208,244
2012	$1,494,356	$1,050,382	$1,387,241	$27,941	$915,673	$4,875,594
2013	$16,829,759	$11,829,624	$15,623,404	$314,680	$10,312,503	$54,909,970
2014	$14,980,240	$10,529,599	$13,906,458	$280,098	$9,179,203	$48,875,599
2015	$13,734,388	$9,653,890	$12,749,908	$256,803	$8,415,802	$44,810,792
Total	**$47,102,570**	**$33,108,358**	**$43,726,263**	**$880,716**	**$28,862,292**	**$153,680,198**

Sources: REMI, RESI

7.5 The Impacts of Infrastructure

While only marginal changes in ROI are seen between the current incentive program and doubling or uncapping the incentive program, other states have shown that a larger or uncapped incentive program leads to a healthier film industry and increased impacts. Under the current tax incentive program, RESI found that production activity has the ability to support an annual average of more than 690 FTE jobs, a total of nearly $200.0 million in output, and a total of approximately $86.0 million in wages through FY 2016. Were the incentive program to be uncapped, the impacts increase to an annual average of roughly 1,885 FTE jobs, a total of $556.3 million in output, and a total of $207.3 million in wages in Maryland through FY 2016. These figures, while impressive, are only a fraction of those found in some states with uncapped film incentive programs, which also frequently exhibit large investments into film infrastructure.

In Louisiana, where there is no film production incentive cap, certified film production spending supported more than 14,000 jobs and $717.9 million in wages in CY 2012 alone.[156] In addition

[151] In this instance, ROI is equal to the total output generated over total tax credits claimed. See Section 6.2 for more detail on ROI. See Appendix C for a breakdown of yearly tax credits allocated, claimed, and the corresponding impacts.
[152] ROI is equal to tax revenues generated over tax credits claimed. Here, RESI reported the average of each CY's annual ROI. See Section 6.2 for more detail on ROI.
[153] REMI does not differentiate between state and local fiscal impacts.
[154] Impacts are derived from productions that have inquired about filming in Maryland. Impacts could be greater if the program were to become uncapped.
[155] Some items are sales tax exempt. This was factored in during analysis.
[156] Scott & Associates, "The Economic Impact of Louisiana's Entertainment Tax Credit Programs," 16.

to film production, Louisiana offers incentives for film infrastructure.[157] In CY 2012 certified film infrastructure spending supported nearly 300 jobs and $11.8 million in wages.[158] Not only did the uncapped program lead to vast positive impacts on the state's economy, but the investment in infrastructure further increased the positive economic impacts. The study, completed by Loren C. Scott & Associates, Inc., reported on CY 2010, 2011, and 2012—showing a continual increase in the economic impacts of film production.[159] During this period, the state has both seen an increase in tax credits, as well as continual infrastructure spending.[160]

Georgia, another state with an uncapped incentive program, has also seen significant infrastructure investments.[161] According to a study performed by Meyers Norris Penny, LLP, the impacts of production spending in 2010 totaled nearly 8,800 jobs, more than $419.9 million in wages, more than $1,159.7 million in output, and over $125.5 million in state and local tax revenues.[162] Additionally, impacts associated with infrastructure spending totaled more than 1,700 jobs, more than $80.1 million wages, nearly $225.8 million in output, and approximately $16.9 million in state and local tax revenues.[163] Not only does incentive-fueled production prove to be extremely beneficial to the economy, but investment in infrastructure increases these impacts. According to the study, capital expenditures in Georgia related to film infrastructure totaled more than $135.0 million between 2008 and 2010, during which time production spending impacts have vastly increased.[164]

In Massachusetts investment in film infrastructure has been linked with production incentives, both of which create higher economic impacts for the industry. HR&A Advisors, Inc., estimated that the Massachusetts Film Tax Incentive Program supported approximately 2,220 FTE jobs, $183.0 million in wages, and $375.3 million in output in 2011.[165] Since 2011, major infrastructure investments have taken place. In 2012, ground was broke on New England Studios, a structure which is estimated to cost $35 million.[166] According to operators of New England Studios, this investment would not have occurred if not for the incentive program.[167] In addition to the impacts made by film production, the construction of New England Studios was determined to support 440 jobs, $35.6 million in wages, and $62.3 million in output.[168]

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[157] Scott & Associates, "The Economic Impact of Louisiana's Entertainment Tax Credit Programs," 17.
[158] Ibid.
[159] Ibid, 16.
[160] Ibid, 37–38.
[161] Meyers, et al, "Economic Contributions of the Georgia Film and Television Industry," 9.
[162] Ibid.
[163] Ibid.
[164] Ibid, 10.
[165] HR&A, "Economic Impacts of the Massachusetts Film Tax Incentive Program," 4.
[166] Ibid, 12–13.
[167] Ibid, 13.
[168] Ibid, 24.

8.0 Conclusion

RESI analyzed the economic and fiscal impacts of the five completed projects that received tax credits as part of the *Film Production Employment Act of 2011* to date. Using the five completed project, impacts were determined for the lifetime of the program, FY 2011 through FY 2016. The current incentive program supports a substantial number of FTE jobs, translating into additional wages for the state, and generates vast output and tax revenues. On the basis of tax revenue alone, tax credits claimed versus tax revenues generated, the incentive program more than pays for itself.

Under the current tax credit program, production activity has the ability to support an annual average of more than 690 FTE jobs, a total of nearly $200.0 million in output, and a total of approximately $86.0 million in wages through FY 2016. Under the current tax credit, Maryland will receive an additional $49.2 million in tax revenues through FY 2016. For every $1 of tax credit allocated, there is an increase of $1.03 in tax revenues.

If the tax credit cap was doubled, Maryland could see productions support an annual average of approximately 1,090 FTE jobs, a total of more than $321.3 million in output, a total of approximately $141.8 million in wages through FY 2016, and generate an additional $76.5 million in tax revenues. If there were no tax credit cap limit, Maryland could see productions support an annual average roughly 1,885 FTE jobs, a total of $556.3 million in output, and a total of $207.3 million in wages in Maryland through FY 2016, and generate an additional $153.7 million in tax revenues. If the tax credit program were to be doubled or uncapped, the return on investment would increase to $1.05. Additionally, RESI determined that on average a production may add $1.1 million per year to tourism induced spending.

If Maryland follows the example set in other states and increases or uncaps the film production incentive program and infrastructure investment, the incentive program has the ability to grow and enhance the film industry in Maryland, creating even greater impacts.

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Appendix A—Terms

A.1 Acronyms and Abbreviations

BEA	Bureau of Economic Analysis
CY	Calendar year
FTE	Full-time equivalent
FY	State fiscal year
DBED	Department of Business and Economic Development
IMPLAN	Impact Analysis for Planning
MFIC	Maryland Film Industry Coalition
NAICS	North American Industry Classification System
QCEW	Quarterly Census of Employment and Wages
REMI	Regional Economic Models, Inc.
RESI	Regional Economic Studies Institute
ROI	Return on Investment
MPAA	Motion Picture Association of America
SB	Senate Bill

A.2 Glossary

Economic Impact	The changes in the economy resulting from an economic event. RESI typically reports employment, output, and wage impacts.
Employment	The number of new jobs created as a result of the economic event being modeled in REMI. Note that REMI weighs full-time and part-time jobs with equal weight.
Fiscal Impact	The change in tax revenues resulting from an event. RESI typically reports state and local tax revenues, which are combined in REMI.
Jobs/Hires	The engagement of the services of a person, or persons, for wages.
Full-time Equivalent	A unit of measure indicating a standard 40-hour work week of an employed person, as weighted by industry standard averages.
Output	The economic activity created as a result of the economic event being modeled in REMI. It is synonymous with “state GDP.” In other words, it is the market value of all goods and services produced by the economy of the region being modeled.
State GDP	The change in market value of all goods and services produced by the economy of the region being modeled in REMI. It is synonymous with “output.”

REMI	The input/output modeling software used to model changes in the economy in a particular region. The user builds a model based on specifically calibrated software from REMI, Inc. (typically at the state national level), then enters input figures—an industry change of employment or sales, a household change of income, and/or several other input types—for the industry sectors expected to be impacted as a "scenario." REMI then runs the scenario and reports the findings over a period. REMI is dynamic, meaning wages and output are cumulative. The model allows for RESI to forecast impacts over time.
Supported	The impacts that result from the economic activity being modeled. Such supported impacts may include but not be limited to new jobs.
Wage Impact	The change in employee compensation (including all salaries and wages) associated with the job and output creation resulting from the economic event being modeled in REMI.

Appendix B—Methodology

B.1 Film-induced Tourism

To determine film-induced tourism, RESI used tourism data for North Carolina for 2010 and 2011 associated with film and total tourism spending. A percentage was calculated for film-induced tourism using the following equation:

$$\textit{Film induced tourism spending percent} = \frac{\textit{Tourism Spending Associated with Productions}}{\textit{Total State Tourism Spending in same CY}}$$

Total production counts were determined for each year to create a film ratio for Maryland to North Carolina.

$$\textit{Ratio of productions} = \frac{\textit{Total Maryland productions CY } 2011}{\textit{Average North Caroline productions between CY } 2010 \textit{ and CY } 2011}$$

RESI then applied North Carolina’s average film-induced tourism spending percentage against the ratio to determine the percentage of Maryland tourism potentially associated with productions. RESI found that in 2011, productions potentially accounted for $4.2 million. RESI divided this result by the number of productions in Maryland during 2011 (4) and found that on average a production may add $1.1 million to tourism spending, less and 0.01 percent of Maryland’s total tourism spending.

RESI applied the per production impact of $1.1 million to tourism spending to later years total productions and determined increased nonresident tourism spending. This was then added into the analysis for each CY.

B.2 REMI Model Overview

To quantify the economic impacts of the specified economic events, RESI used the REMI PI+ model version 1.5. This model enumerates the economic and fiscal impacts of each dollar earned and spent by the following: employees relating to the economic events, other supporting vendors (business services, retail, etc.), each dollar spent by these vendors on other firms, and each dollar spent by the households of the event’s employees, other vendors’ employees, and other businesses’ employees.

This model is dynamic, as it allows for price and wage effects to filter into the impacts reported by the model. Another benefit of the model compared to traditional static models, such as IMPLAN, is the regional constraint is built in to account for limited resources over time. Although some productions may not use the same locations when filming, the resources available to them (specialty crew, equipment, etc.) might have crossover issues, and therefore require a production to search outside the region to accommodate its needs. A situation like this is built into the model using current industry data and employment information from Bureau of Economic Analysis (BEA) data.

Economic impacts are often reported by three distinct types: direct, indirect, and induced impacts. The direct economic effects are generated as the economic event generates FTE jobs and hires workers to support associated activities. The indirect economic impacts occur as vendors purchase goods and services from other firms. In either case, the increases in employment generate increases in household income as new job opportunities are created and income levels rise. This drives the induced economic impacts that result from households increasing their purchases at local businesses.

Consider the following example. A new firm opens in a region and directly employs 100 workers. The firm purchases supplies, both from outside the region as well as from local suppliers, which leads to increased business for local firms, thereby hypothetically creating FTE jobs for another 100 workers. This is called the indirect effect. The workers at the firm and at suppliers spend their income mostly in the local area, hypothetically creating FTE jobs for another 50 workers. This is the induced effect. The direct, indirect and induced effects add up to 250 FTE jobs created from the original 100 FTE jobs. Thus, in terms of employment, the total economic impact of the firm in our example is 250.[169]

B.3 Average Annual Wage Calculation

Compared to the state as a whole, wages in this industry proved to be slightly higher than the annual average wages for Maryland. According to the BLS, Maryland's average annual wages per person in 2012 amounted to approximately $54,000. According to calculations, under the current tax credit cap, wages supported by production incentives amount to an annual average of $56,487.

To obtain this value, RESI averaged the annual wage rate over the lifetime of the program to determine the per person wage rate during the lifetime of the current credit program. As a dynamic model, REMI continuously compounds wages and output, creating a new baseline annually. RESI pulled the annual wage reported each year for Maryland from REMI to counter this. It should be noted that totals reported in the tables reflect the increase or decrease from the baseline predictions, and therefore cannot be used to estimate average annual employment.

B.4 Assumptions

RESI made some key assumptions for the three scenarios:

1. Each production would occur within a specific CY (2011 through 2015), and its credits would be redeemed in the following CY.

[169] Total economic impact is defined as the sum of direct, indirect, and induced effects.

2. Credits were nontransferable.
3. Over the lifetime of the incentive program, FY 2011 through FY 2016, incentives will total $55.0 million. Since the analysis is reported in CYs, the $48.8 million in the report is the total between CY 2011 through CY 2015. State fiscal years run from July 1 to June 30 of the following year. Therefore, FY 2011 would be from July 1, 2011 through June 30, 2012. In the analysis for July 1, 2015 would be the beginning of FY 2016, and would be the last time credits were applied for under the current program.

For the “Doubling the Tax Credit Cap” and “Removing the Tax Credit Cap” scenarios, RESI requested a list of inquiring productions from MFIC to determine the potential productions that may have occurred had the cap been higher or nonexistent. In the doubling scenario, total credits claimed could not exceed more than $30 million for a single CY (filmed in 2011, wrapped and claimed credit in CY 2013 along with productions that wrapped in CY 2012) unless credits in the following year were available to be redeemed.

Another important assumption to consider when reviewing the results reported in this analysis, most importantly those for CY 2014, is the timeline for tax credit application, award, and use for larger productions. In some cases, larger productions have been permitted to apply for tax credits in the following state fiscal year for a portion of their spending that occurred in a prior state fiscal year. Allowing larger productions to claim previous spending for the following state fiscal year’s tax credits limits other productions’ ability to apply for tax credits, which subsequently limits the ability to offset the tax credits awarded with collected revenues. While the shift to a following state fiscal year can create a negative impact within that period, it is important to note that the positive revenues and impacts relating to that prior spending has been captured in the year it actually occurred. As a result, the net impacts over multiple years are ultimately positive.

Appendix C—Detailed Impacts of the Current Tax Credit Cap

Figure 11: Current Tax Credit Cap Economic Impact Details[170]

CY	Allocated Credit	Credit Claimed[171]	Employment[172]	Output	Wages
2011	$3,410,885	$69,841	319.4	$19,630,000	$11,800,000
2012	$13,459,157	$3,756,871	1,459.1	$89,680,000	$50,670,000
2013	$22,982,858	$13,879,999	1,491.3	$89,100,000	$43,770,000
2014	$7,933,459	$23,128,128	-38.6	-$12,220,000	-$24,730,000
2015	$7,213,641	$8,062,855	240.4	$13,800,000	$4,410,000
Total	**$55,000,000**	**$48,897,694**	**694.3**	**$199,990,000**	**$85,920,000**

Sources: REMI, RESI

Between CY 2011 through CY 2015, productions can be attributed with adding an annual average of 690 FTE jobs, a total of nearly $200.0 million in output, and a total of more than $85.9 million in wages to Maryland's economy. Knowledge of expenditures is limited for CYs beyond 2012 at the time of this report. CY 2013 through CY 2015 expenditures were estimated averages based on prior year productions, known future productions (*Veep* season three) and potential productions (productions that have inquired about filming in Maryland but are still in pre-production).

[170] Summed figures may not add up exactly to totals due to rounding.
[171] Please note that credits are not claimed in the same CY as they are allocated.
[172] Employment is averaged over the lifetime of the program since this industry reflects varying lengths of employment.

Figure 12: Average Economic Impacts Details

Impact	Direct	Indirect	Induced	Total
2011				
Employment	191.8	84.0	43.5	319.4
Output	$10,717,518	$5,111,338	$3,801,145	$19,630,000
Wages	$5,052,536	$3,988,147	$2,759,317	$11,800,000
2012				
Employment	876.3	383.7	198.6	1,459.1
Output	$49,088,594	$22,890,954	$17,700,452	$89,680,000
Wages	$21,695,931	$17,125,373	$11,848,696	$50,670,000
2013				
Employment	902.3	383.6	205.4	1,491.3
Output	$48,646,502	$23,200,213	$17,253,286	$89,100,000
Wages	$18,741,482	$14,793,321	$10,235,197	$43,770,000
2014				
Employment	-23.4	-9.9	-5.3	-38.6
Output	-$6,671,832	-$3,181,892	-$2,366,276	-$12,220,000
Wages	-$10,588,916	-$8,358,210	-$5,782,875	-$24,730,000
2015				
Employment	145.4	61.8	33.1	240.4
Output	$7,534,475	$3,593,299	$2,672,226	$13,800,000
Wages	$1,888,278	$1,490,485	$1,031,236	$4,410,000
Total				
Employment[173]	418.5	180.6	95.0	694.3
Output	$109,315,256	$51,613,911	$39,060,833	$199,990,000
Wages	$36,789,310	$29,039,117	$20,091,572	$85,920,000

Sources: RESI, REMI

Figure 13: Total Fiscal Impacts Details[174]

CY	Property	Income	Sales[175]	Payroll	Other	Total
2011	$63,826	$44,863	$59,251	$1,193	$39,110	$208,244
2012	$1,316,648	$925,471	$1,222,271	$24,618	$806,782	$4,295,791
2013	$4,357,395	$3,062,809	$4,045,057	$81,474	$2,670,011	$14,216,747
2014	$6,911,181	$4,857,863	$6,415,788	$129,224	$4,234,854	$22,548,910
2015	$2,434,332	$1,711,090	$2,259,839	$45,517	$1,491,647	$7,942,424
Total	**$15,083,382**	**$10,602,097**	**$14,002,207**	**$282,027**	**$9,242,404**	**$49,212,116**

Sources: REMI, RESI

[173] Employment is an average count over the course of CY 2011 through CY 2015. This industry relies on varying lengths of employment, and therefore workers are not typically continuously employed throughout the period. Rather, employment would change each year.
[174] REMI does not differentiate between state and local fiscal impacts.
[175] Some items are sales tax exempt. This was factored in during analysis.

Appendix D—Incentive Programs

Figure 14: Incentive Programs in United States

State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
Alabama	25% Spend & NR Labor 35% Resident Labor	Tax Credit	Yes/No/No	No Cap	$500k	$15M 9/30/13 $15M 9/30/14 $20M 9/30/15	Each Resident & Nonresident	No/Yes/Yes	N/A	H 69 H 243
Alaska	30% +20% Res Labor + 6% Rural + 2% Season	Tax Credit	Yes/Yes/6 yr	No Cap	$75K	$200M thru 6/30/23	Each Resident & Nonresident	No/Yes/Yes	6/30/23	S23
Arkansas	20% +10% BTL Resident Labor	Rebate	Yes/No/No	No Cap	$50K $200K	No Cap	1st $500k of Each Resident & Nonresident Subject to Tax	No/No/Yes	6/30/19	H 1939 H 1633
California	20% or 25%	Tax Credit	No/Yes/5 yr	No Cap	$1M Feat/TV $500k MOW/Miniseries	$100M per FY	Each BTL Resident & BTL Nonresident	No/No/yes	6/30/17	AB 15c AB 2026 SB 1197
Colorado	20%	Rebate	Yes/No/No	No Cap	$100k or $1M	$1M 6/30/14	1st $1M of Each Resident & Nonresident	No/No/Yes	NA	H1286 S 230
Connecticut	10%, 15%, 30%	Tax Credit	No/Yes/3 yr	No Cap	$100K	No Cap	Each Resident & Nonresident	No/Yes/Yes	NA	10-107 11-61 11-6

State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
District of Columbia	21%, 30% BTL Labor, 42%	Rebate	Yes/No/No	No Cap	$250k	Program is Not Currently Funded	Each BTL Resident & BTL Nonresident	No/No/No	NA	B 583 B 743
Florida	20% - 30%	Tax Credit	No/Yes/5 yr	$500k Comm/Music	$625k TH/TV $100k Indie* $500k Comm/Music	$296M thru 6/30/16	1st $00k of Each Resident	No/No/Yes	6/30/16	S 1752 H 143 H 7087
Georgia	20% +10% Promo	Tax Credit	No/Yes/5 yr	No Cap	$500k	No Cap	1st $00k of Each Resident & Nonresident	Yes 6%/Yes/No	NA	H 1027
Hawaii	20% or 25%	Tax Credit	Yes/No/No	$15M	$200k	No Cap	Each Resident $ Nonresident Subject to HI Tax	No/Yes/No	12/31/18	H 726
Idaho	20%	Rebate	Yes/Yes/No	$500k	$200k	$1M 6/30/14	Each BTL Resident & BTL Nonresident	No/No/No	6/30/14	H 592
Illinois	30% + 15% Resident	Tax Credit	No/Yes/5 yr	No Cap	< 30 min > $50k ≥ 30 min > $100k	No Cap	1st $100k of Each Resident	No/No/Yes	5/6/21	H 2482 S 398 S 1286
Kentucky	20%	Tax Credit	Yes/No/No	No Cap	$500k Film/TV $200k Comm $50k Docu	No Cap	All BTL & 1st $100k of Each ATL	No/No/No	12/31/14	H 3a
Louisiana	30% + 5% Resident Labor	Tax Credit	Yes/Yes/10 yr	No Cap	> $300k	No Cap	Each Resident and Nonresident	No/No/Yes	NA	478 154 178

State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
Maine	10% or 12% Wage	Rebate	Yes/No/No	$75k	No Cap	1st $50k of Each Resident & Nonresident	No	No/No/No	NA	H 1005 H 804
	5% Spend	Tax Credit	No/No/No	$75k	No Cap	NA				
Maryland	25% or 27%	Tax Credit	Yes/No/No	No Cap	> $500k	$25M 6/30/14 $7.5M 6/30/15 $7.5M 6/30/16	Each Resident & Nonresident Earning ≤ $500k	No/No/Yes	6/30/16	S 183
Massachusetts	25% Spend 25% Payroll	Tax Credit	Yes/Yes/5 yr	No Cap	$50k	No Cap	Each Resident & Nonresident	Yes 5.25%/No/Yes	12/31/22	H 4252 H 4084 H 4904
Michigan	27% Spend* 32% Res Labor* 27% NR ATL	Rebate	Yes/No/No	No Cap	$100k	$50M 9/30/13 $50M 9/30/14	1st $2M of Each Resident & Nonresident	Yes 4.25%/No/Yes	9/30/17	S 569 H 5365 H 4328
Minnesota	Up to 20%	Rebate	Yes/No/No	No Cap	<$1M	$10M	Each Resident & ATL Nonresident	No/Yes/Yes	NA	H 729
	Up to 25%	Rebate	Yes/No/No	No Cap	$1M					
Mississippi	25% Local Spend & NR Labor 30% Res Labor + 5% Veteran*	Rebate	Yes/No/No	$10M	$50k	$20M Per FY	1st $5M of Each Resident & Nonresident Subject to W/H	5%/Yes/No	6/30/16	H 2462

State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
Missouri	35% Local Spend & Res Labor 30% NR Labor	Tax Credit	No/Yes/5 yr	No Cap	< 30 min > $50k > 30 min > $100k	$4.5 M Per CY	Each Resident & Nonresident Earning ≤ $1M	No/Yes/No	11/28/13	H 1
Montana	9% Spend 14% Labor	Tax Credit	Yes/No/4 yr	No Cap	$0	No Cap	1st $50k of Each Resident	No/Yes/No	12/31/14	H 40 H 584 H 163
	Up to 25%	Grant	Yes/No/No	No Cap	$0	$1M		No/Yes/Yes	NA	NA
Nevada	15% - 19% Spend & Res Labor 12% NR Labor	Tax Credit	No/Yes/4 yr	$6M	$500k	$20M Per FY	1st $750k of Each Resident & Nonresident	No/No/Yes	6/30/23	s 165
Oklahoma	35% + 2%	Rebate	Yes/No/No	No Cap	$50k $25K	$5M Per FY	Each Resident & ATL Nonresident	No/Yes/Yes	6/30/14	S 318 S 623
Oregon	20% Goods 10% Wage + 6.2% Labor	Rebate	Yes/No/No	No Cap	$750k $1M	$6M Per FY NA	Each Resident & Nonresident Earning <$1M	No/Yes/No	12/31/17	S 635 S 621 H 2191 H 3672
Pennsylvania	25% + 5%	Tax Credit	No/Yes/3 yr	20% of the Annual Cap	60% of Budget Incurred in PA	$60M Per FY	Each Resident & Nonresident Subject to W/H	No/Yes/Yes	NA	S 97 H 761
Puerto Rico	40% Spend & Res Labor	Tax Credit	No/Yes/Yes	No Cap	$100k	$50M Per FY	Each Resident	No/No/Yes	6/30/18	27

State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
	20% NR Labor	Tax Credit	No/Yes/Yes	No Cap		No Cap	Each Nonresident	Yes 20%/Yes/No	NA	
Rhode Island	25%	Tax Credit	No/Yes/3 yr	$5M	$100k	$15M Per CY	Each Resident & Nonresident	No/No/Yes	6/30/19	H 7839 H 7323
South Carolina	30% Supplier 25% Res Labor 20% NR Labor	Rebate	Yes/Yes/No	No Cap	$1M	Yes Per FY	Each Resident & Nonresident Earning < $1M	Yes 2%/Yes/No	NA	H 3152 S 163
Tennessee	25%	Grant	Yes/No/No	No Cap	$200k	$2.3M	1st $250k of Each Resident	No/No/Yes	NA	S 3513 H 3839
Texas	5% - 15% Spend Incl. Res Labor OR 8% - 25% Res Labor + 2.5% or 4.5%	Grant	Yes/No/No	No Cap	$250k Film/TV $100k Comm/Video	$95M For Biennium Ending 8/31/15	1st $1M of Each Resident	No/No/Yes	NA	H 873
Utah	20% + 5%	Tax Credit	Yes/No/No	No Cap	$1M	$6.79M Per FY	Each Resident & Nonresident	No/Yes/Yes	No	S 14 H99
Virginia	15% or 20%*	Tax Credit	Yes/No/No	At Discretion of Film Office	$250k	$5M	1st $1M of Each Resident & Nonresident	No/No/Yes	NA	H 861
	+10% or 20%*	Tax Credit	Yes/No/No		$250k	For Biennium 6/30/14				
	Discretionary*	Grant	NA/NA/NA		$0	$6M for Biennium		No/No/Yes	NA	S 1098 H 1301

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State	Incentive	Type	Refundable/ Transferable/ Carry forward	Per Project Cap	Min. Spend	State Annual Cap	Qualified Labor	Loan Out Withholding/ Registration Required/ CPA Audit Required	Sunset Date	Enacted Bill Number
Washington	Up to 30% or 35% Up to 15% BTL NR Labor	Rebate	Yes/No/No	No Cap	$500k Feat $300k Per TV Eps $150k Comm	$3.5 M Per CY	Each Resident & BTL Nonresident	No/No/No	6/30/17	S 5539
West Virginia	27% + 4%	Tax Credit	No/Yes/2 yr	No Cap	$25k	$5M Per FY	Each Resident & Nonresident Subject to Tax	No/Yes/Yes	NA	S 610 H 2514
Wisconsin	25%	Tax Credit	Yes/No/No	$100k	> $50k in Salaries & Wages	$500K Per FY	Each Resident Earning Less Than $250k	No/No/Yes	NA	A 75 S 3c
Wyoming	12% - 15%	Rebate	Yes/No/No	No Cap	$200k	$900k For Biennium Ending 6/30/14	Each Resident	No/No/No	6/30/16	S 41 H 71 H 45 H 127

Source: Cast and Crew Entertainment Services

Appendix E—Detailed Economic Impacts

Figure 15: Average Detailed Employment Impacts—Current Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	-0.1	0.0	0.0	-0.1
Mining	0.0	0.0	0.0	0.0
Utilities	0.1	0.0	0.0	0.2
Construction	9.3	4.0	2.1	15.4
Manufacturing	0.9	0.4	0.2	1.6
Wholesale Trade	0.2	0.1	0.0	0.3
Retail Trade	6.4	2.8	1.4	10.6
Transportation and Warehousing	0.6	0.3	0.1	1.0
Information	404.2	173.8	91.8	669.9
Finance and Insurance	0.6	0.3	0.1	1.1
Real Estate and Rental and Leasing	3.1	1.3	0.7	5.1
Professional, Scientific and Technical Services	4.6	2.0	1.0	7.6
Management of Companies and Enterprises	-0.1	-0.1	0.0	-0.2
Administrative and Support and Waste Management and Remediation Services	10.7	4.6	2.4	17.8
Educational Services	-0.5	-0.2	-0.1	-0.9
Health Care and Social Services	1.6	0.7	0.4	2.7
Arts, Entertainment and Recreation	26.4	11.3	6.0	43.7
Accommodation and Food Services	5.0	2.2	1.1	8.4
Other Services	2.2	1.0	0.5	3.7
Government	-56.5	-24.0	-12.9	-93.4
Total	**418.5**	**180.6**	**95.0**	**694.3**

Sources: REMI, RESI

Figure 16: Total Detailed Output Impacts—Current Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	$0	$0	$0	$0
Mining	$10,934	$5,156	$3,910	$20,000
Utilities	$180,662	$84,130	$65,208	$330,000
Construction	$2,303,274	$1,078,920	$827,806	$4,210,000
Manufacturing	$361,589	$167,286	$131,125	$660,000
Wholesale Trade	$121,709	$51,433	$46,857	$220,000
Retail Trade	$1,050,806	$490,647	$378,546	$1,920,000
Transportation and Warehousing	$218,768	$102,768	$78,464	$400,000
Information	$122,837,322	$58,092,761	$43,839,917	$224,770,000
Finance and Insurance	$629,509	$293,437	$227,054	$1,150,000
Real Estate and Rental and Leasing	$2,752,206	$1,287,918	$989,876	$5,030,000
Professional, Scientific and Technical Services	$1,587,122	$741,205	$571,674	$2,900,000
Management of Companies and Enterprises	-$59,987	-$28,899	-$21,114	-$110,000
Administrative and Support and Waste Management and Remediation Services	$1,137,953	$533,079	$408,969	$2,080,000
Educational Services	-$54,514	-$26,346	-$19,140	-$100,000
Health Care and Social Services	$543,132	$248,182	$198,686	$990,000
Arts, Entertainment and Recreation	$2,169,708	$1,025,718	$774,574	$3,970,000
Accommodation and Food Services	$743,689	$349,862	$266,449	$1,360,000
Other Services	$77,318	$33,220	$29,462	$140,000
Government	-$27,268,489	-$13,017,317	-$9,664,194	-$49,950,000
Total	**$109,315,256**	**$51,613,911**	**$39,060,833**	**$199,990,000**

Sources: REMI, RESI

Figure 17: Total Detailed Wage Impacts—Current Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	$0	$0	$0	$0
Mining	$0	$0	$0	$0
Utilities	$149,863	$118,292	$81,844	$350,000
Construction	$2,551,959	$2,014,352	$1,393,689	$5,960,000
Manufacturing	$907,744	$716,515	$495,742	$2,120,000
Wholesale Trade	$710,780	$561,044	$388,175	$1,660,000
Retail Trade	$1,669,906	$1,318,116	$911,978	$3,900,000
Transportation and Warehousing	$406,772	$321,080	$222,148	$950,000
Information	$41,589,219	$32,827,857	$22,712,924	$97,130,000
Finance and Insurance	$1,104,707	$871,985	$603,308	$2,580,000
Real Estate and Rental and Leasing	$518,099	$408,954	$282,947	$1,210,000
Professional, Scientific and Technical Services	$3,331,248	$2,629,473	$1,819,279	$7,780,000
Management of Companies and Enterprises	$222,654	$175,749	$121,597	$520,000
Administrative and Support and Waste Management and Remediation Services	$1,794,078	$1,416,130	$979,792	$4,190,000
Educational Services	$363,954	$287,282	$198,764	$850,000
Health Care and Social Services	$1,871,151	$1,476,966	$1,021,883	$4,370,000
Arts, Entertainment and Recreation	$2,050,987	$1,618,917	$1,120,096	$4,790,000
Accommodation and Food Services	$1,156,089	$912,542	$631,369	$2,700,000
Other Services	$710,780	$561,044	$388,175	$1,660,000
Government	-$24,320,680	-$19,197,182	-$13,282,138	-$56,800,000
Total	**$36,789,310**	**$29,039,117**	**$20,091,572**	**$85,920,000**

Sources: REMI, RESI

Figure 18: Average Detailed Employment Impacts—Doubling the Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	-0.1	-0.1	0.0	-0.2
Mining	0.0	0.0	0.0	0.1
Utilities	0.2	0.1	0.0	0.3
Construction	14.6	6.3	3.3	24.2
Manufacturing	1.5	0.7	0.4	2.6
Wholesale Trade	0.3	0.2	0.1	0.6
Retail Trade	8.2	3.6	1.8	13.6
Transportation and Warehousing	0.7	0.3	0.1	1.1
Information	642.1	275.9	145.9	1,063.9
Finance and Insurance	1.3	0.6	0.3	2.1
Real Estate and Rental and Leasing	5.2	2.3	1.2	8.6
Professional, Scientific and Technical Services	8.4	3.6	1.9	13.9
Management of Companies and Enterprises	-0.2	-0.1	0.0	-0.3
Administrative and Support and Waste Management and Remediation Services	17.5	7.6	4.0	29.0
Educational Services	-0.8	-0.3	-0.2	-1.3
Health Care and Social Services	2.9	1.3	0.7	4.9
Arts, Entertainment and Recreation	39.8	17.1	9.0	66.0
Accommodation and Food Services	-0.9	-0.3	-0.2	-1.5
Other Services	3.5	1.5	0.8	5.8
Government	-87.2	-37.0	-19.9	-144.0
Total	**656.9**	**283.4**	**149.2**	**1,089.6**

Sources: REMI, RESI

Figure 19: Total Detailed Output Impacts—Doubling the Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	$0	$0	$0	$0
Mining	$16,393	$7,760	$5,847	$30,000
Utilities	$284,663	$132,628	$102,709	$520,000
Construction	$3,632,584	$1,702,158	$1,305,258	$6,640,000
Manufacturing	$640,736	$297,515	$231,748	$1,170,000
Wholesale Trade	$209,975	$89,759	$80,267	$380,000
Retail Trade	$1,363,300	$634,344	$492,356	$2,490,000
Transportation and Warehousing	$213,462	$99,599	$76,938	$390,000
Information	$196,820,225	$93,137,037	$70,212,738	$360,170,000
Finance and Insurance	$1,105,376	$516,788	$397,836	$2,020,000
Real Estate and Rental and Leasing	$4,666,242	$2,187,817	$1,675,941	$8,530,000
Professional, Scientific and Technical Services	$2,839,422	$1,330,093	$1,020,485	$5,190,000
Management of Companies and Enterprises	-$70,865	-$34,261	-$24,874	-$130,000
Administrative and Support and Waste Management and Remediation Services	$1,865,332	$874,873	$669,795	$3,410,000
Educational Services	-$70,837	-$34,363	-$24,800	-$130,000
Health Care and Social Services	$926,770	$425,113	$338,116	$1,690,000
Arts, Entertainment and Recreation	$3,240,829	$1,532,375	$1,156,796	$5,930,000
Accommodation and Food Services	-$64,119	-$36,379	-$19,503	-$120,000
Other Services	$121,471	$52,306	$46,223	$220,000
Government	-$42,070,643	-$20,096,279	-$14,903,079	-$77,070,000
Total	**$175,642,863**	**$82,919,637**	**$62,767,500**	**$321,330,000**

Sources: REMI, RESI

Figure 20: Total Detailed Wage Impacts—Doubling the Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	$0	$0	$0	$0
Mining	$12,845	$10,139	$7,015	$30,000
Utilities	$231,218	$182,508	$126,274	$540,000
Construction	$3,969,238	$3,133,061	$2,167,701	$9,270,000
Manufacturing	$1,365,897	$1,078,152	$745,951	$3,190,000
Wholesale Trade	$1,070,452	$844,946	$584,601	$2,500,000
Retail Trade	$2,325,023	$1,835,224	$1,269,754	$5,430,000
Transportation and Warehousing	$552,353	$435,992	$301,654	$1,290,000
Information	$66,492,225	$52,484,690	$36,313,085	$155,290,000
Finance and Insurance	$1,691,315	$1,335,015	$923,670	$3,950,000
Real Estate and Rental and Leasing	$809,262	$638,779	$441,958	$1,890,000
Professional, Scientific and Technical Services	$5,288,035	$4,174,035	$2,887,930	$12,350,000
Management of Companies and Enterprises	$346,827	$273,763	$189,411	$810,000
Administrative and Support and Waste Management and Remediation Services	$2,860,249	$2,257,697	$1,562,054	$6,680,000
Educational Services	$548,072	$432,613	$299,316	$1,280,000
Health Care and Social Services	$2,890,222	$2,281,355	$1,578,423	$6,750,000
Arts, Entertainment and Recreation	$3,052,930	$2,409,787	$1,667,282	$7,130,000
Accommodation and Food Services	$1,006,225	$794,250	$549,525	$2,350,000
Other Services	$1,070,452	$844,946	$584,601	$2,500,000
Government	-$34,879,623	-$27,531,733	-$19,048,644	-$81,460,000
Total	**$60,703,218**	**$47,915,220**	**$33,151,562**	**$141,770,000**

Sources: REMI, RESI

Figure 21: Average Detailed Employment Impacts—No Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	-0.2	-0.1	-0.1	-0.4
Mining	0.1	0.0	0.0	0.1
Utilities	0.3	0.1	0.1	0.4
Construction	15.4	6.7	3.5	25.7
Manufacturing	2.6	1.1	0.6	4.4
Wholesale Trade	-0.7	-0.3	-0.2	-1.1
Retail Trade	10.4	4.5	2.3	17.2
Transportation and Warehousing	1.3	0.6	0.3	2.2
Information	1,158.4	495.5	263.5	1,917.3
Finance and Insurance	2.5	1.1	0.6	4.2
Real Estate and Rental and Leasing	9.7	4.2	2.2	16.1
Professional, Scientific and Technical Services	16.6	7.2	3.8	27.5
Management of Companies and Enterprises	-0.1	0.0	0.0	-0.1
Administrative and Support and Waste Management and Remediation Services	30.2	13.0	6.9	50.1
Educational Services	-1.5	-0.6	-0.3	-2.5
Health Care and Social Services	2.2	1.0	0.5	3.8
Arts, Entertainment and Recreation	72.5	31.0	16.5	120.0
Accommodation and Food Services	-2.5	-1.0	-0.6	-4.0
Other Services	4.6	2.0	1.0	7.7
Government	-183.7	-78.0	-41.8	-303.5
Total	**1,138.2**	**488.0**	**258.8**	**1,885.2**

Sources: REMI, RESI

Figure 22: Total Detailed Output Impacts—No Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	-$16,393	-$7,760	-$5,847	-$30,000
Mining	$21,867	$10,313	$7,820	$40,000
Utilities	$448,526	$210,487	$160,987	$820,000
Construction	$3,887,557	$1,830,544	$1,391,900	$7,110,000
Manufacturing	$1,039,327	$487,493	$373,180	$1,900,000
Wholesale Trade	-$239,335	-$117,854	-$82,812	-$440,000
Retail Trade	$1,772,432	$830,916	$636,652	$3,240,000
Transportation and Warehousing	$415,641	$195,326	$149,033	$760,000
Information	$359,223,953	$169,603,611	$128,362,436	$657,190,000
Finance and Insurance	$2,034,347	$956,464	$729,189	$3,720,000
Real Estate and Rental and Leasing	$8,710,664	$4,099,261	$3,120,076	$15,930,000
Professional, Scientific and Technical Services	$5,572,115	$2,621,697	$1,996,188	$10,190,000
Management of Companies and Enterprises	-$32,619	-$16,136	-$11,245	-$60,000
Administrative and Support and Waste Management and Remediation Services	$3,154,899	$1,485,478	$1,129,622	$5,770,000
Educational Services	-$152,887	-$72,856	-$54,256	-$280,000
Health Care and Social Services	$1,018,425	$473,639	$367,936	$1,860,000
Arts, Entertainment and Recreation	$5,936,367	$2,801,851	$2,121,782	$10,860,000
Accommodation and Food Services	-$179,193	-$89,519	-$61,287	-$330,000
Other Services	$88,209	$38,531	$33,260	$160,000
Government	-$88,612,137	-$41,920,140	-$31,617,723	-$162,150,000
Total	**$304,091,767**	**$143,421,343**	**$108,746,890**	**$556,260,000**

Sources: REMI, RESI

Figure 23: Total Detailed Wage Impacts—No Tax Credit Cap

Industry	Direct	Indirect	Induced	Total
Agriculture	$0	$0	$0	$0
Mining	$29,973	$23,658	$16,369	$70,000
Utilities	$342,545	$270,383	$187,072	$800,000
Construction	$4,881,263	$3,852,956	$2,665,781	$11,400,000
Manufacturing	$2,132,341	$1,683,133	$1,164,525	$4,980,000
Wholesale Trade	$1,327,361	$1,047,734	$724,905	$3,100,000
Retail Trade	$3,378,348	$2,666,651	$1,845,001	$7,890,000
Transportation and Warehousing	$886,335	$699,616	$484,050	$2,070,000
Information	$120,845,520	$95,387,688	$65,996,793	$282,230,000
Finance and Insurance	$2,714,667	$2,142,784	$1,482,549	$6,340,000
Real Estate and Rental and Leasing	$1,353,052	$1,068,012	$738,936	$3,160,000
Professional, Scientific and Technical Services	$8,953,264	$7,067,132	$4,889,604	$20,910,000
Management of Companies and Enterprises	$590,890	$466,410	$322,700	$1,380,000
Administrative and Support and Waste Management and Remediation Services	$4,804,191	$3,792,119	$2,623,690	$11,220,000
Educational Services	$723,626	$571,184	$395,190	$1,690,000
Health Care and Social Services	$3,926,420	$3,099,263	$2,144,317	$9,170,000
Arts, Entertainment and Recreation	$5,390,799	$4,255,150	$2,944,051	$12,590,000
Accommodation and Food Services	$1,511,479	$1,193,064	$825,457	$3,530,000
Other Services	$1,597,115	$1,260,660	$872,225	$3,730,000
Government	-$76,627,269	-$60,484,642	-$41,848,088	-$178,960,000
Total	**$88,761,919**	**$70,062,955**	**$48,475,127**	**$207,300,000**

Sources: REMI, RESI

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