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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF REVENUE
Office of Revenue Analysis

DISCUSSION PAPER

A Macro Analysis of the Return on Investment of the Rhode Island Motion Picture Production Tax Credits

This discussion paper is a staff analysis of the Rhode Island motion picture production tax credits. The analysis is based on one method that can be used to evaluate the economic and fiscal impacts of a specific tax credit. The methodology employed is by no means the only way, nor perhaps even the best way, to evaluate the economic and fiscal impacts of a specific tax credit.

The discussion paper is being presented to the Governor's Strategic Tax Study Group as an example of one way to assess the costs and benefits of tax credits. As such, it should be viewed as a "work in progress" and a starting point for discussions regarding the return on investments from State tax credits. It is not intended to provide the DOR's position on the pros and cons of the motion picture production tax credits.

With regard to the motion picture production tax credits, the Strategic Tax Study Group will consider this macro analysis as well other studies, a review of the impact of recently enacted legislation that caps this credit, and new regulations issued jointly by DOR and the Rhode Island Film and Television Office.

I. <u>Introduction</u>

This report presents a macro level analysis of the direct "return on investment" that the State of Rhode Island receives from the motion picture production tax credits that were introduced in 2005 (see Rhode Island General Laws 44-31.2). This report adopts a unique approach in estimating the impact of movie production tax credits on the state's fiscal condition. Rather than trying to determine the multiplier effects of the movie production activity that results from the introduction of movie production tax credits, this report estimates the general revenues collected directly from such activity and then goes on to calculate the implicit multipliers necessary for the state to breakeven on its issuance of movie production tax credits.

This report is only one part of what will be a two part analysis. The second part of the analysis will be at a micro level, examining the actual film tax credit documentation submitted to the Rhode Island Film & TV Office. Based on the information contained in those applications, the

Office of Revenue Analysis will breakdown the specific taxes paid by category (i.e., income, sales and use, etc.) and provide a dynamic forecast of the economic impacts of the motion picture production tax credits. The micro level analysis is a time consuming process that requires a fully functional data warehouse and the utilization of a regional input-output economic model. Neither of these infrastructure requirements is fully operational at this time.

The report is organized as follows. The first section is a summary of this report's findings. The second section describes the current status of Rhode Island's motion picture tax incentive program. The third section is a brief review of the reports that have been done previously for Rhode Island and those recently issued by the Connecticut Department of Economic and Community Development (February 2008) and the Massachusetts Department of Revenue (March 2008). The fourth section discusses the methodology used in this report. The fifth and sixth sections contain the details of the analysis based on the methodologies described in section four. The sixth section offers conclusions regarding the report's findings. The final section provides some policy options.

I. Summary of the Report's Findings

This report analyzes the direct economic impact of the motion picture production activity that has been induced by the state's passage of the motion picture production tax credit legislation in 2005. The report is a macro level analysis of the estimated "return on investment" that the state has received as a result of this program. In addition, breakeven multipliers are calculated for the program.

The report employs two similar methods when determining the direct economic impact of the motion picture production tax credits. The first method uses Rhode Island Gross Domestic Product (GDP) as its starting point. The second method uses Rhode Island Personal Income (PI) as its reference point.

Under the RI GDP method, this report finds that:

- For every dollar invested in motion picture production tax credits, the State earns back $0.28 from direct economic impacts;
- The direct return on investment for the State from the motion picture production tax credits is – 72.0 percent;
- The gross multiplier needed for the State to breakeven on its issuance of motion picture production tax credits is 3.57, meaning that every dollar spent by a motion picture production company must yield $3.57 in direct and indirect expenditures for the state to earn back the value of the tax credits issued; and
- The net multiplier needed for the State to breakeven on its issuance of motion picture production tax credits is 2.57, meaning that every dollar spent by a motion picture production company must yield $2.57 in indirect expenditures for the state to earn back the value of the tax credits issued.

Under the RI PI method, this report finds that:

- For every dollar invested in motion picture production tax credits, the State earns back $0.32 from direct economic impacts;
- The direct return on investment for the State from the motion picture production tax credits is – 68.0 percent;
- The gross multiplier needed for the State to breakeven on its issuance of motion picture production tax credits is 3.13, meaning that every dollar spent by a motion picture production company must yield $3.13 in direct and indirect personal income for the state to earn back the value of the tax credits issued; and
- The net multiplier needed for the State to breakeven on its issuance of motion picture production tax credits is 2.12, meaning that every dollar spent by a motion picture production company must yield $2.12 in indirect personal income for the state to earn back the value of the tax credits issued.

II. Current Status of the Rhode Island Motion Picture Production Tax Credit Program

According to the RI Film & TV Office, 29 motion picture productions have been certified as eligible for Rhode Island motion picture production tax credits for the 2005 – 2008 period. The total estimated Rhode Island production costs associated with these 29 projects is $225,868,839 and the estimated motion picture production tax credits for these same projects is $55,704,471. Of these 29 projects, 16 projects have submitted certified final production costs to the RI Film & TV Office and been issued a final tax credit certificate. These 16 projects had final eligible production costs of $142,226,312 and qualified for motion picture production tax credits of $35,556,578. These projects were filmed and completed in the years 2005, 2006, and 2007 and consisted of 10 film projects, four television productions, and two commercials.

In order to avoid distortions in the data, this report focuses on the economic impact and the "return on investment" from the 16 completed projects that have been issued a final tax credit certificate. The remaining 13 projects have not yet submitted final certified production costs to the RI Film & TV Office.

III. A Brief Review of Other Reports on Movie Production Tax Incentives

A. Earlier Analyses of the Impact of Motion Picture Production on Rhode Island's Economy

The earliest known analysis of the economic impact of motion picture production in the State of Rhode Island is Timothy J. Tyrell's *The Economic Impacts of Film Production in 1997 on the State of Rhode Island.* Tyrell's study includes seven film projects that were conducted at least in part in Rhode Island during 1997. These projects include four major motion pictures such as *Meet Joe Black,* and *Something About Mary* and three smaller films such as *Tax Day*. According to the Rhode Island Film Office (the precursor to the RI Film & TV Office), these seven films had estimated Rhode Island production costs of $16,480,000.

Tyrell used this estimate of the direct film production expenditures to estimates the meals, entertainment, shopping, and other expenditures of film production employees and the same expenditures for the friends and family of film production employees. The sum of these three components yields total direct expenditures due to film production activity of $22,248,000.

Tyrell then assumes a multiplier of 1.5 to estimate indirect expenditures of $11,124,000 that result from the film production activity's direct expenditures. Thus, in Tyrell's study "total economic expenditure impacts" from these seven 1997 films were $33,372,000.

Based on this estimate, Tyrell derives three types of "state fiscal impacts" (state income taxes, accommodations taxes, and sales and use taxes). For state income taxes, he estimates increased payments of $93,936; for accommodations taxes, he estimates increased collections of $108,150; and for sales and use taxes, he estimates increased remittances of $645,439. The total of all three state fiscal impacts was estimated to be $847,525 or 2.5 percent of total economic expenditure impacts and 3.8 percent of total direct film production expenditures. It should be noted that Tyrell's study likely underestimates the total "state fiscal impacts" of the estimated "total economic expenditure impacts" as it excludes other sources of revenue that may benefit from these expenditures.

More recently, both the State of Connecticut and the Commonwealth of Massachusetts issued reports on their own state's film tax credit programs. Interestingly, both of these states implemented their own film tax credit programs after the State of Rhode Island had established its motion picture production tax credit.

B. Connecticut's Analysis of the Economic Impact of Motion Picture Production

Connecticut's analysis of its film tax credit program was conducted by the Connecticut Department of Economic and Community Development (DECD). The study, titled *The Economic and Fiscal Impacts of Connecticut's Film Tax Credit,* covers the period July 1, 2006 through September 30, 2007 during which time "[T]here were thirty film productions in process…incurring $282 million in expenditures in Connecticut that will claim $86 million in credits over the next year or so." Of these 30 film productions, 13 had filed for Connecticut's Film Tax Credit. These 13 productions consisted of five feature films, five television productions, and three commercials or infomercials.

The Connecticut DECD focuses on determining the direct and indirect economic impacts of film production in Connecticut. The 13 film productions noted above had total Connecticut production expenditures of $57.9 million of which $55.1 million was eligible for Connecticut's film tax credit program. These qualified expenditures resulted in tax credits of $16.5 million. The $2.8 million of unqualified production expenditures are part of the direct economic impact of film production in Connecticut. The $55.1 million of qualified production expenditures, however, may overstate the direct economic impact of film production in Connecticut to the extent that they include the salaries and fringe benefits of "big-budget film earners", most of whom likely spend their earnings outside of Connecticut. Removing these expenditures and other expenditures that are not likely to be spent directly in the state, yields final direct expenditure impacts of $43.0 million.

The Connecticut DECD translates the $45.8 million of direct film production expenditures into 70 economic sectors using the North American Industry Classification System. These economic sectors are components of the Connecticut Economic Model that was developed by Regional Economic Models, Inc. (REMI). The output from the REMI model indicates that indirect economic impacts of Connecticut film production activity is $20.7 million in new real gross state product (the value of all goods and services produced in Connecticut in a given year adjusted for inflation). Thus, the "total economic expenditures impact" of Connecticut's film tax credit program is $66.5 million yielding a direct expenditures multiplier of 1.45, very close to that assumed by Tyrell.

The Connecticut DECD concludes that "[F]or every dollar spent on the tax credit, the state receives $0.08 back in additional revenue." The report goes on to state that "[T]he state will not receive enough additional revenue from increased economic activity to pay for the estimated $16.5 million in tax credits applied for in 2007. From a fiscal perspective, this program cannot pay for itself in one year."

C. Massachusetts' Analysis of the Economic Impact of Motion Picture Production

Massachusetts' analysis of its film industry tax incentive program was conducted by the Massachusetts Department of Revenue (MA DOR). This study differs from Connecticut's in that it focuses only on the direct expenditure impacts of film production activity in Massachusetts. Massachusetts' study, titled *A Report on The Massachusetts Film Industry Tax Incentives,* covers the years 2006, 2007, and 2008 based on film credit and sales tax exemption applications processed through February 22, 2008. During this period, 47 projects completed production and applied for film tax credits. Another 41 productions filed sales tax exemption applications but have not yet filed film tax credit applications. Thus, for the period included in the report, 88 productions were considered. These 88 productions had estimated Massachusetts total production costs of $544.9 million and qualified for an estimated $135.7 million of film tax credits and $2.4 million of sales tax exemptions ($138.1 million in total).

Massachusetts' film tax credit application requires the applicant to provide data on the actual amount of payroll and other production spending. Massachusetts' sales tax exemption application requires the applicant to estimate the payroll and other production expenses. Based on the payroll information culled from these applications, and moving the payroll costs of "those employees who receive salaries greater than $1.0 million" from other production expenses to payroll expenses, MA DOR estimates that "the Commonwealth could collect as much as $18.6 million in new income taxes from motion picture productions that have already claimed or will be eligible for film production tax credits" in the 2006 – 2008 period. This $18.6 million is 3.4 percent of the total direct film production expenditures.

It should be noted that MA DOR acknowledges that "[A]dditional tax revenue will be generated by ancillary economic activity associated with film production in Massachusetts, and by 'multiplier' effects entailed by this related economic activity." In contrast to Connecticut's DECD, however, MA DOR acknowledges that "any estimate of the net economic and tax revenue impact of tax incentives needs to takes into account the reduction in state government spending that occurs as a result of decreased tax revenue available for state programs." Due to data limitations, MA DOR states that it "is not currently in a position to estimate the net economic and tax impact of the film industry tax incentives."

D. The National Governors Association Issue Brief on Film

In July 2008, the National Governors Association's Center for Best Practices, with support from the National Endowment for the Arts and the National Assembly of State Arts Agencies, released an issue brief titled *Promoting Film and Media to Enhance State Economic Development.* This issue brief provides a compendium of the various actions that states have undertaken to increase the amount of film and media activity as a means of achieving economic development objectives.

The issue brief indicates that states are using several policies and programs to attract the film and TV productions, including:

- Offering financial incentives such as tax credits on in-state expenditures;
- Supporting the development of a state workforce with industry skills through university programs and other training programs;
- Marketing the state's production advantages through web sites and other publicity materials;
- Helping facilitate the production process through production guides and/or scouting programs; and
- Cultivating local film activity through the encouragement of local filmmaking and the support of film festivals.

The issue brief concludes that "[F]ilm and media arts can play a key role in state economic development. As economic impact studies continue to demonstrate the ability of the film industry to create high-paying jobs, stimulate tourism, engage the community, and boost out-of-state spending, many states have recognized the value of investing in this growing industry."

This investment is perhaps best personified by the state of Connecticut. Current Connecticut Governor M. Jodi Rell, notes that "[N]ot only does Connecticut provide tax, labor and lodging incentives for film projects, but we also have created a film workforce training program.."

IV. Methodology

This report employs two related methods for ascertaining the direct "return on investment" from the Rhode Island motion picture production tax credit program. The first method, similar to that used in Connecticut's study, uses Rhode Island Gross Domestic Product (GDP) as its focus. A state's gross domestic product is the sum of value added from all industries in a state. Much of the discussion of the impact that the motion picture production tax credits have revolves around the new economic activity that results when a movie production takes place in Rhode Island. The gross costs associated with this movie production can be thought of as adding to Rhode Island GDP. This linkage forms the basis for the GDP method. It is important to note, however, that this method implicitly assumes that all eligible motion picture production costs are spent on in-state suppliers. To the extent that these costs include payments to out-of state vendors, the GDP method will overstate the economic benefit of the motion picture production tax credits.

The second method uses Rhode Island Personal Income (PI) as its central tenet. A state's personal income is the income that is received by, or on behalf of, persons who live in the state. Thus, a state's personal income will include income received by Rhode Island residents that was earned out-of-state but exclude earnings retained by businesses. Most measures of tax burden use personal income as its base. For example, the Rhode Island Public Expenditure Council's

How Rhode Island Taxes Compare — Measuring Tax Burdens 2006 measures RI's state and local tax burden as both a percentage of personal income and as an amount per $1,000 of personal income. The common usage of personal income in measuring tax burdens is the basis for the PI method.

Traditionally, the return on investment (ROI) is measured as the difference between the gain from investment and the cost of investment divided by the cost of investment. That is,

$$\text{ROI} = (\text{Gain from Investment} - \text{Cost of Investment}) / \text{Cost of Investment}$$

The analysis in this report focuses on the "gain from investment" to the State of Rhode Island from the use of the motion picture production tax credits. The State's gain from investment is measured as the total general revenues received by the State that can be directly attributed to the production of films and television programs that qualified for motion picture production tax credits. The focus here is on the State's gain from investment. This measure of the gain from investment does not capture any incremental revenues that local governments may receive as a result of an eligible motion picture production taking place in their municipality. This approach to measuring the gain from investment is justified by the fact that the "cost of investment", the motion picture production tax credits, are borne directly by the State.

It is important to note that the gain from investment in this context considers only the gain that is realized during the time that an eligible motion picture project is in production in Rhode Island. This approach is consistent with the report issued by the Connecticut Department of Economic and Community Development. In that report it was noted that the effects from film productions "quickly dissipate after the productions complete their work and leave the state."

As noted in section II, 16 motion picture projects that completed production in 2005, 2006 or 2007 have submitted certified final production costs and have been issued motion picture production tax credit certificates. These 16 projects had certified final Rhode Island production costs of $142.2 million. It is important to note that these expenditures may not have been paid solely to in-state factors of production. In this analysis, ORA will treat these expenditures as if all such expenditures were paid to Rhode Island based suppliers.

The $142.2 million of certified final production costs have resulted in the awarding of $35,556,578 in motion picture production tax credits by the Rhode Island Film & TV Office. The $35.6 million of movie production tax credits represents the cost of investment to the state of having these projects filmed in the state. According to the Rhode Island Department of Revenue, as of May 2, 2008, $27,242,351, or 76.6 percent, of these issued motion picture production tax credits had been used by eligible Rhode Island taxpayers to offset Rhode Island tax liabilities.

V. <u>Analysis: GDP Method</u>

According to the U.S. Department of Commerce's Bureau of Economic Analysis (BEA), RI current dollar GDP in 2005 was $43.625 billion and in 2006 it was $45.660 billion (data for 2007 is not yet available). Thus, for the years 2005 and 2006, total RI GDP was $89.285 billion. The State of Rhode Island Budget Office reports that for FY 2005 audited total general revenues were $3.005 billion, for FY 2006 audited total general revenues were $3.140 billion and for FY 2007 preliminary general revenues were $3.231 billion. These three fiscal years cover the period from July 1, 2004 through June 30, 2007. Converting fiscal year values to calendar year values, estimated total general revenues for CY 2005 were $3.073 billion and for CY 2006 estimated total general revenues were $3.186 billion. Thus, for 2005 and 2006, total general revenues collected by the state are estimated to be $6.259 billion. The ratio of this two year sum of total general revenues to the sum of RI GDP for 2005 and 2006 is 0.0701, meaning that 7.01 percent of RI GDP is captured by the state in the form of general revenue.

Since state GDP data for 2007 is not available, this analysis will focus on motion picture productions that were completed in 2005 or 2006, have filed certified final production costs with the RI Film & TV Office, and have been issued motion picture production tax credit certificates by the RI Film & TV Office. There were 12 motion picture productions that met these criteria. These 12 productions had certified final production costs of $120,422,993. The $120.4 million of motion picture production costs qualified for $30,105,478 of motion picture production tax credits. **The $30.1 million of motion picture production tax credits issued is the cost of investment to the State of the motion picture production tax credit program.**

It is important to understand how encompassing the ratio of state general revenues to state GDP is. State general revenues not only include taxes, such as the personal income tax and the sales and use tax, but also licenses and fees, fines and penalties, lottery transfers to the general fund, and other miscellaneous general revenues. Some of the items included in general revenues consist of revenue sources that will have minimal or no connection to the direct production costs associated with a motion picture project. Other items in general revenues will have a direct connection to the direct production costs associated with a motion picture project. As a result, the ratio of state general revenues to state GDP is a proxy that can be utilized to capture all of the direct impacts of motion picture production activity in RI — the impacts that are the focus of this report.

Application of the percentage RI GDP that is captured by the state in the form of general revenues, 7.01 percent, to the $120.4 million of eligible motion picture production gross costs generates an estimated $8.44 million of total general revenues to the State of Rhode Island. Thus, **the $8.44 million represents the gain from investment to the State from the motion picture production tax credit program.**

The direct return on investment from the motion picture production tax credit program based on the GDP method calculates to be −71.97 percent. **Put another way, on average, every dollar invested by the State in the form of a motion picture production tax credit has returned $0.28 to the state.** It is important to note that, although this calculation attempts to captures all direct returns to the State from the motion picture production tax credit program, the calculation does not account for any local tax and fee revenues or any state non-general revenues that result from the film and TV production activity.

Despite this limitation, it is possible, however, to infer the multiplier needed for the state to breakeven on its investment of tax dollars in motion picture productions. Recall that the each dollar of RI GDP results in $0.0701 of total general revenues. Based on this, the estimated level of RI GDP necessary to generate $30,105,748 of total general revenues is $429,468,588 (i.e.,

$30,105,748/0.0701). Given direct motion picture production expenditures of $120.4 million and the estimated level of RI GDP necessary to generate the $30.1 million of motion picture production tax credits that are generated by that direct expenditure, **the gross multiplier needed to break-even on the issuance of motion picture production tax credits is 3.57** (i.e., $429,468,588/$120,422,993).

In addition to not directly capturing any local tax and fee revenues or any state non-general revenues, the estimate above also does not capture the revenue impact of any indirect economic activity that results after the film or TV production has concluded. This indirect economic activity consists of spending by vendors that have supplied goods and services to the motion picture production. This spending consists of vendor purchases of inputs (i.e., labor and capital) as well as the spending that the owners of these inputs make on goods and services.

It is difficult to measure this indirect economic activity but it is possible to determine what the indirect economic activity multiplier needs to be for the state to breakeven on its investment of tax dollars in motion picture productions**.** Note that, through direct effects, it is estimated that the state has already captured $8.44 million of the initial $30.1 million of tax credits invested. This leaves $21,663,933 of tax credits that would need to be recovered through the general revenues generated by indirect activities associated with the motion picture productions in order for the State to breakeven on its investment.

Applying the technique used above, the estimated level of RI GDP necessary to generate $21.7 million of total general revenues is $309,044,123 (i.e., $21,663,993/0.0701). Given direct motion picture production expenditures of $120.4 million and the estimated level of RI GDP necessary to generate the $21.7 million of motion picture production tax credits that have not been captured by the state through direct channels, **the net multiplier needed to achieve the point where the gain from investment equals the cost of investment based on indirect economic activity is 2.57** (i.e., $309,044,123/$120,422,993).

VI. Analysis: PI Method

According to the BEA, Rhode Island Personal Income (PI) in current dollars was $38.388 billion in 2005, $39.835 billion in 2006, and $41.745 billion in 2007. Thus, for the years 2005 – 2007, total RI PI was $119.968 billion. As noted in Section V, for 2005 and 2006, total general revenues collected by the state are estimated to be $6.259 billion. In order to estimate general revenues collected in CY 2007 data for FY 2008 would be needed. Such data does not yet exist but the Governor's FY 2009 budget submission includes revised FY 2008 general revenues of $3.440 billion. Based on preliminary FY 2007 total general revenues and revised FY 2008 total general revenues, ORA estimates CY 2007 total general revenues to be $3.336 billion. Thus, for 2005 – 2007, total general revenues collected by the state are estimated to be $9.595 billion. The ratio of this three year sum of total general revenues to the sum of RI PI for 2005 – 2007 is 0.0800, meaning that 8.0 percent of RI PI is captured by the state in the form of general revenue.

This analysis assumes that the direct motion picture production expenditures translate dollar-for-dollar into wages and salaries and their supplements, proprietor's income adjusted for the value of inventories and the depreciation of capital equipment, rental income less depreciation, dividends, interest, and transfer payments received by individuals, less contributions for government social insurance. That is, under the PI approach, it is assumed that all expenditures pass through directly to income recipients and shareholders without any leakages into depreciation, corporate retained earnings, etc.

Given the fact that personal income data exists for 2007, this analysis will use the 16 eligible motion picture productions with certified final production costs that were issued final motion picture production tax credit certificates in 2005, 2006, or 2007. As noted in Section II, these 16 productions had certified final production costs totaling $142,226,312. The $142.2 million of motion picture production costs qualified for $35,556,578 of motion picture production tax credits. **The $35.6 million of movie production tax credits issued is the cost of investment to the State of the motion picture production tax credit program.**

Application of the ratio of total general revenues to RI PI for 2005 – 2007 of 8.0 percent to the $142.2 million of eligible motion picture production gross costs generates an estimated $11,378,105 of total general revenues to the State of Rhode Island. It is important to remember that this figure includes all direct general revenues collected by the state from the 16 motion picture productions noted above. Thus, **the $11.4 million represents the gain from investment to the State from the motion picture production tax credit program.**

The direct return on investment from the motion picture production tax credit program based on the PI method calculates to be −68.0 percent. **Put another way, every dollar invested by the State in the form of a motion picture production tax credit during 2005 – 2007 has returned an average of $0.32 to the state.** It is important to note that, although this calculation captures all direct returns to the State from the motion picture production tax credit program, the calculation does not account for any local tax and fee revenues or any state non-general revenues that result from the film and TV production activity. It is possible, however, to infer the multiplier needed for the state to breakeven on its investment of tax dollars in motion picture productions.

Recall that each dollar of RI PI results in $0.0800 of total general revenues. Thus, the estimated level of RI PI necessary to generate $35,556,578 of total general revenues is $444,457,225 (i.e., $35,556,578/0.0800). Given direct motion picture production expenditures of $142.2 million and the estimated level of RI PI necessary to generate the $35.6 million of motion picture production tax credits that are generated by that direct expenditure, **the gross multiplier needed to break-even on the issuance of motion picture production tax credits is 3.13** (i.e., $444,457,225/$142,226,312).

In addition to not directly capturing any local tax and fee revenues or any state non-general revenues, the estimate above also does not capture the revenue impact of any indirect economic activity that results after the film or TV production has concluded. This indirect economic activity consists of spending by vendors that have supplied goods and services to the motion picture production. This spending consists of vendor purchases of inputs (i.e., labor and capital) as well as the spending that the owners of these inputs make on goods and services.

It is difficult to measure this indirect economic activity but it is possible to determine what the indirect economic activity multiplier needs to be for the state to breakeven on its investment of tax dollars in motion picture productions**.** Note that, through direct effects, the state has already captured $11.4 million of the initial $35.6 million of tax credits invested. This leaves $24,178,473 of tax credits to be recovered through the general revenues generated by indirect activities associated with the motion picture productions.

Applying the technique used above, the estimated level of RI PI necessary to generate $24.2 million of total general revenues is $302,230,913 (i.e., $24,178,473/0.0800). Given direct motion picture production expenditures of $142.2 million and the estimated level of RI PI necessary to generate the $24.2 million of motion picture production tax credits that have not been captured by the state through direct channels, **the net multiplier needed to achieve the point where the gain from investment equals the cost of investment based on indirect economic activity is 2.12** (i.e., $302,230,913/$142,226,312).