

## **Estimating The Impact of the Massachusetts Film Production Tax Incentives – A Preliminary Analysis**

Howard Merkowitz  
Massachusetts Department of Revenue

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### **Background: *The Law***

- Massachusetts film production incentives were enacted in November 2005, effective January 1, 2006
  - 20% payroll credit for qualified production expenses of at least \$250,000 – limited to salaries of less than \$1 million per employee per production
  - 25% (non-payroll) production expense credit for qualified production expenses if more than 50% of expenses or 50% of principal photography days are attributable to MA
  - Salaries >\$1 million per employee per production are eligible for 25% production expense credit, though not payroll credit
  - Sales tax exemption for production-related expenses
  - Tax credit limited to \$7 million per production
  - Tax credits transferable
  - 2005 legislation had a sunset date of January 1, 2013

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## **Background: *The Law***

- In July 2007, law was amended, retroactive to January 1, 2007:
  - Spending threshold was reduced from \$250,000 to \$50,000
  - \$7 million per production credit cap was removed
  - Payroll credit was increased from 20% to 25%
  - “Digital media project” was included in the definition of “motion picture” eligible for the tax incentives
  - Tax credits were made refundable at 90% of face value, in addition to being transferable
  - Sunset date was extended from January 1, 2013 to January 1, 2023
- Department of Revenue required to issue annual report on the amount of tax incentives granted and their economic impact

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## **DOR March 2008 Report**

- First annual report was issued in March 2008, but very little detailed information was available on completed film productions; most information was from sales tax applications, which provide only the following information:
  - Amount of total planned film production spending
  - Planned spending on wages for employees paid less than \$1 million per production
  - Planned spending on wages for employees paid more than \$1 million per production
  - Planned spending on set production, location fees, rental or purchased facilities/equipment, and other production expenses
- Report covered period from 2006 through February 2008

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## DOR March 2008 Report

- As of February 2008, based on tax credit and sales tax applications, 88 film productions were potentially eligible for tax incentives:
  - 47 productions, with eligible spending of \$79 million, had applied for the film credits. Eligible spending was about evenly split between wages and salaries and other expenses.
  - 41 productions, with eligible production costs of \$465 million, had applied for the sales tax exemptions but not tax credits. \$309 million in estimated wages and salaries, \$156 million in other expenses
  - \$545 million in total eligible spending, with \$351 million attributable to wages & salaries, \$194 million attributable to non-wage expenses
  - 13 “big budget” films, with total production costs of \$450 million
  - \$18 million in credits approved, \$116 million in credits in the pipeline for productions that had been completed, were still filming, or were planned

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## DOR March 2008 Report

- \$2-\$3 million in foregone sales tax revenue, based on analysis of normally taxable spending from tax credit application detail, which indicated that 20%-30% of non-payroll expenditures would have been taxable
- Tax credit applications indicate number of employees on 41 completed film productions totaled 3,744, with average duration of employment 1.5 months (includes short-term extras)
- Average employment in the motion picture industry (NAICS Code 5121, from ES-202 data) for the nine months through September 2007 was up 550, or 11.7% from the same period in 2006

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## **DOR March 2008 Report**

- ES-202 numbers don't include members of Screen Actors Guild, who are included in temporary employment category, but ES-202 numbers don't distinguish between full and part-time employees in the motion picture industry
- DOR made no attempt to conduct an economic impact analysis due to the fact that only \$18 million in credits had been claimed and spending information from sales tax exemption applications was minimal
- Planned to conduct more comprehensive economic analysis for next annual report due December 2008

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## **DOR May 2008 Study**

- As part of debate over expansion of film industry tax credits to infrastructure projects, a Massachusetts state legislator requested that the Department of Revenue perform a dynamic (REMI) economic and tax impact analysis of the film industry tax incentives
- DOR does not typically use the REMI model for tax analysis, but had recently used REMI to analyze various of the governor's economic development and infrastructure proposals
- Used as a starting point a 2005 Louisiana Legislative Fiscal Office study that used the REMI model to estimate the economic impact of the Louisiana film tax credits.
- After consulting with REMI staff, made certain modifications to the Louisiana methodology, particularly in calculating new employment outside the model and estimating components of non-payroll spending

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## DOR May 2008 Study - Methodology

- REMI model is a dynamic model that uses an exogenous policy-related “shock” to the regional economy as an input and simulates the impact of that shock on the overall economy, including multiplier effects
- In this case, the “shock” is the increased film production activity that takes place in Massachusetts as a result of the tax incentives
- Assumed \$100 million in tax credits, per request of state legislator (consistent with calendar year 2008 applications)
  - Implies \$400 million in Massachusetts film production spending at 25% credit rate (ignored impact of sales tax exemption for this analysis)

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## DOR May 2008 Study - Methodology

- Based wages and salaries versus non-wage spending on information provided on tax credit and sales tax exemption applications
  - 64%, or \$256 million, attributable to payroll spending
  - 36%, or \$144 million, attributable to non-payroll spending
- Identified 5%-10% (\$20-\$40 million) of film production spending eligible for credits that would have occurred in the absence of tax incentives – primarily locally-oriented TV programs and commercials. Assumed all major films would not have been produced in Massachusetts in absence of tax incentives.
- Of the \$256 million in payroll spending, 50% is assumed to be paid to non-residents, virtually all of that for actors earning more than \$1 million per production. 10% of those wages was assumed to be spent in Massachusetts.

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## DOR May 2008 Study - Methodology

- For the \$144 million in non-payroll spending, DOR did not have much detail on the exact components of the expenditures, so standard REMI distribution of intermediate inputs for spending in the motion picture industry were used to distribute expenditures
- Ran two analyses -- one under a balanced budget requirement, with the state having to reduce spending to fund the tax expenditures (the default analysis), and the second assuming no spending reductions
  - Reduced net tax expenditures by \$11 million to take into account increased income tax (primarily withholding) on wages, as all film production companies applying for sales tax exemptions must register for withholding with the state.
  - Assumed across-the-board cuts in spending to fund the \$89 million in spending cuts needed to maintain a balanced budget

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## DOR May 2008 Study - Methodology

- Therefore, of \$400 million in film production spending, only \$174 million was assumed to be new spending in Massachusetts, due to the following \$226 million in adjustments:
  - \$107 million for wages paid to non-residents
  - \$30 million for film industry productions that would have occurred even in absence of tax incentives
  - \$89 million for spending reductions needed to maintain balanced budget
- These estimates were used as inputs for the REMI model, as initial increases to Massachusetts income and business spending, and reductions to state government spending
- REMI model calculates additional leakage from Massachusetts economy resulting from out of state purchases by Massachusetts residents and businesses

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## DOR May 2008 Study - Methodology

- Employment -- Because average salaries of employees calculated from tax credit applications was much higher than that used by REMI for the motion picture industry (\$40,000 to \$70,000 vs. \$29,000 in REMI model), we decided to calculate the number of new jobs using tax credit applications.
- Increased income taxes -- calculated direct income tax on wages outside of REMI model based on MA effective income tax rates:
  - 5.2% on non-resident wages and salaries (mainly salaries over \$1 million)
  - 4.0% on resident wages and salaries (assumed average salary of \$55,000 based on information from tax credit applications)
- Other economic and revenue projections – directly from REMI model

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## DOR May 2008 Study - Results

### REMI Model Projections of Incremental Economic Impacts Hypothetical \$100 Million Film Industry Tax Expenditure

	Balanced Budget Requirement	No Balanced Budget Requirement
<b>Change In:</b>		
<b>Total Massachusetts Output (\$ Millions)</b>	<b>\$633</b>	<b>\$720</b>
<b>Massachusetts Gross Domestic Product (MA GDP) (\$ Millions)</b>	<b>\$349</b>	<b>\$451</b>
<b>Total Labor and Proprietor Income (\$ Millions)</b>	<b>\$288</b>	<b>\$368</b>
Wages and Salaries - Massachusetts Residents (\$ Millions)	\$154	\$214
Direct Wages and Salaries - Non-Massachusetts Residents (\$ Millions)	\$119	\$119
Proprietor and Other Labor Income (\$ Millions)	\$15	\$35
<b>Total Massachusetts Employment</b>	<b>2,388 - 3,658</b>	<b>4,044 - 5,314</b>
Direct Film Industry Employment	1,693 - 2,963	1,693 - 2,963
Indirect/Induced Film Industry Employment	155	156
Other Industry Employment (Indirect/Induced)	541	2,195

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## DOR May 2008 Study - Results

### REMI Model Projections- New Tax Revenues Per \$100 Million Hypothetical Tax Expenditure Assumes Balanced Budget Requirement

Inputs to REMI Model	Wages and Salaries (\$ Millions)	Non-Wage Production Costs (\$ Millions)	Total (\$ Millions)
Massachusetts Annual Film Industry Production Spending	\$256	\$144	\$400
<b>Minus:</b>			
Film Industry Spending in Absence of Tax Incentives	-\$19	-\$11	-\$30
New Wages Paid to Non-MA Residents & Spent Out-of-State (49%)	-\$107	N/A	-\$107
<b>New Massachusetts Spending Inputs for REMI Model</b>	<b>\$130</b>	<b>\$133</b>	<b>\$263</b>
Massachusetts Government Spending Reductions to Balance Budget	N/A	N/A	-\$89
<b>Tax Revenue Calculations</b>			
Direct New Wages (Nets out Wages in Absence of Incentives)	\$237	N/A	\$237
Personal Income Taxes Generated from Direct Film Spending			
5.2% on Non-Resident Wages and Salaries	\$6.2	N/A	\$6.2
4.0% on Resident Wages and Salaries	\$4.7	N/A	\$4.7
<b>Personal Income Taxes from Direct Production Spending</b>	<b>\$10.9</b>	<b>N/A</b>	<b>\$10.9</b>
<b>From REMI Model -- Other Tax Revenue from Direct Spending and Multiplier Effects</b>			
Personal Income Tax			\$1.8
Sales/Meal Tax			\$1.9
Minus Impact of Sales Tax Exemption			(\$1.0)
Corporate Tax			\$0.7
Other Taxes (Rooms, Gasoline, Cigarette)			\$1.1
<b>Total Additional Taxes from REMI Model</b>			<b>\$4.4</b>
Potential Additional Income Tax Revenue from Sale of Credits (\$50 Mil/ton at 2.8%)			\$1.4
<b>Grand Total - Additional MA Taxes from Increased Economic Activity</b>			<b>\$16.7</b>
<b>Additional Non-Tax Revenue from REMI Model</b>			<b>\$1.2</b>
<b>Grand Total, All Budgetary Revenue</b>			<b>\$17.9</b>

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## DOR May 2008 Study - Results

- Tax impact: REMI model projects that for each \$100 million in tax credits (\$400 in film production spending), Massachusetts receives back \$17.9 million in revenues under the balanced budget scenario:
  - \$10.9 million for income tax on direct production wages
  - \$1.8 million in additional income tax
  - \$0.9 million in sales tax net of sales tax exemption
  - \$0.7 million in corporate tax
  - \$1.1 million in rooms, gasoline, cigarette taxes
  - \$1.4 million in potential taxes from taxable sales of credits
  - \$1.2 million in non-tax revenue
- \$23.0 million in new state budgetary revenue under non-balanced budget scenario

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## **DOR May 2008 Study - Results**

- Output multiplier of 1.94 (after subtracting \$30 million in spending that would have occurred without tax incentives), which may seem low to some but is reasonable given the amount of wages and salaries paid to non-residents and government spending reductions
- Consistent with 2005 Louisiana Fiscal Office study which, also using the REMI model, estimated that offsetting tax revenue was equal to equal 16%-18% tax expenditure amount in balanced budget case, 18%-19% of expenditures in non-balanced budget case.
- Louisiana has different tax rates and a somewhat (though not radically) different film credit, so one should expect different amount of offsetting tax revenue to be generated.

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## **Uncertainties in May Analysis**

- Direct new employment gain calculations uncertain – how many film production workers would have been employed elsewhere in the economy in the absence of film productions
- Very little detail yet on non-wage film production spending – actual spending on intermediate inputs could result in higher or lower multipliers than estimated in May analysis
- Difficult to determine how much non-wage spending is going to out-of-state companies
- Impact on tourism of “free advertising” for Massachusetts with films set in the Commonwealth

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## Uncertainties in Analysis

- Timing of impact on state revenues – lag of up to a year in claiming the credit or transfer to taxpayer who can use it
- How many of the credits will be refunded as opposed to transferred? Increased refundable credits will reduce net cost to the Commonwealth
- Income taxes on profit or revenue participation by actors – is this Massachusetts source income?

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## Uncertainties in Analysis

- We don't know how film tax incentives compare to other tax expenditures in terms of cost-effectiveness – no comprehensive economic impact study of tax incentives have been carried out in MA
  - Ernst & Young conducted REMI analyses of business tax incentives and estimated that the Massachusetts investment tax credit resulted in 54% revenue offset and research credit resulted in 11% revenue offset for the state

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## **Next Annual Film Credit Report**

- Next report is due in December 2008 – we plan to estimate economic and revenue impacts using REMI model
- DOR now requires very detailed information on production expenditures
  - Wages and salaries for residents and non-residents
  - Non-salary fringe benefit expenses
  - Full detail of non-salary production expenditures
- Should allow us to better model economic impact of wage and non-wage spending