



ANDREW YOUNG SCHOOL  
OF POLICY STUDIES



44th Conference,  
San Antonio  
March 19-22, 2014

# Employment Growth & State Incentives for the Entertainment Industry

A Comparative Analysis of States & Metros

Ric Kolenda

Georgia State University & Georgia Institute of Technology

# State Movie Production Incentive (MPI)

- Monetary inducements for film production
- Biggest growth in tax credits for film production costs
  - ▣ Credits from 5 to 40% of production costs
  - ▣ Most are transferable and/or refundable (i.e., regardless of tax liability)

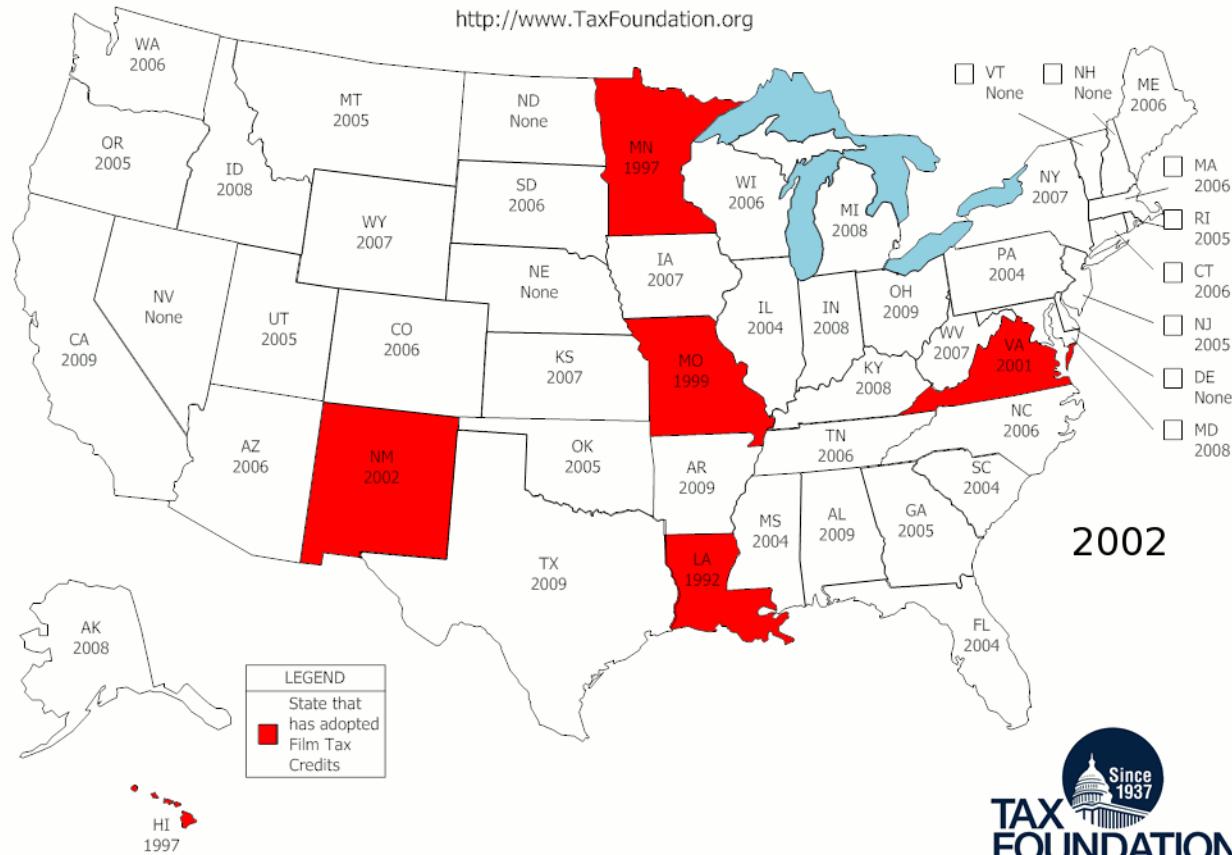
# Rapid Expansion of MPIs

- MPIs proliferated in the 2000s
  - From **4** states in 2002 to **44** states in 2010
- Cost to states
  - \$1.4 billion in 2010
  - Nearly **\$6 billion** since 2001
- Also expanded to related industries
  - Music Recording & Production
  - Digital Media Development

Assessing the Impact of Entertainment Industry Incentives

# Growth of MPIs by State 2002-2009

<http://www.TaxFoundation.org>



Source: Tax Foundation

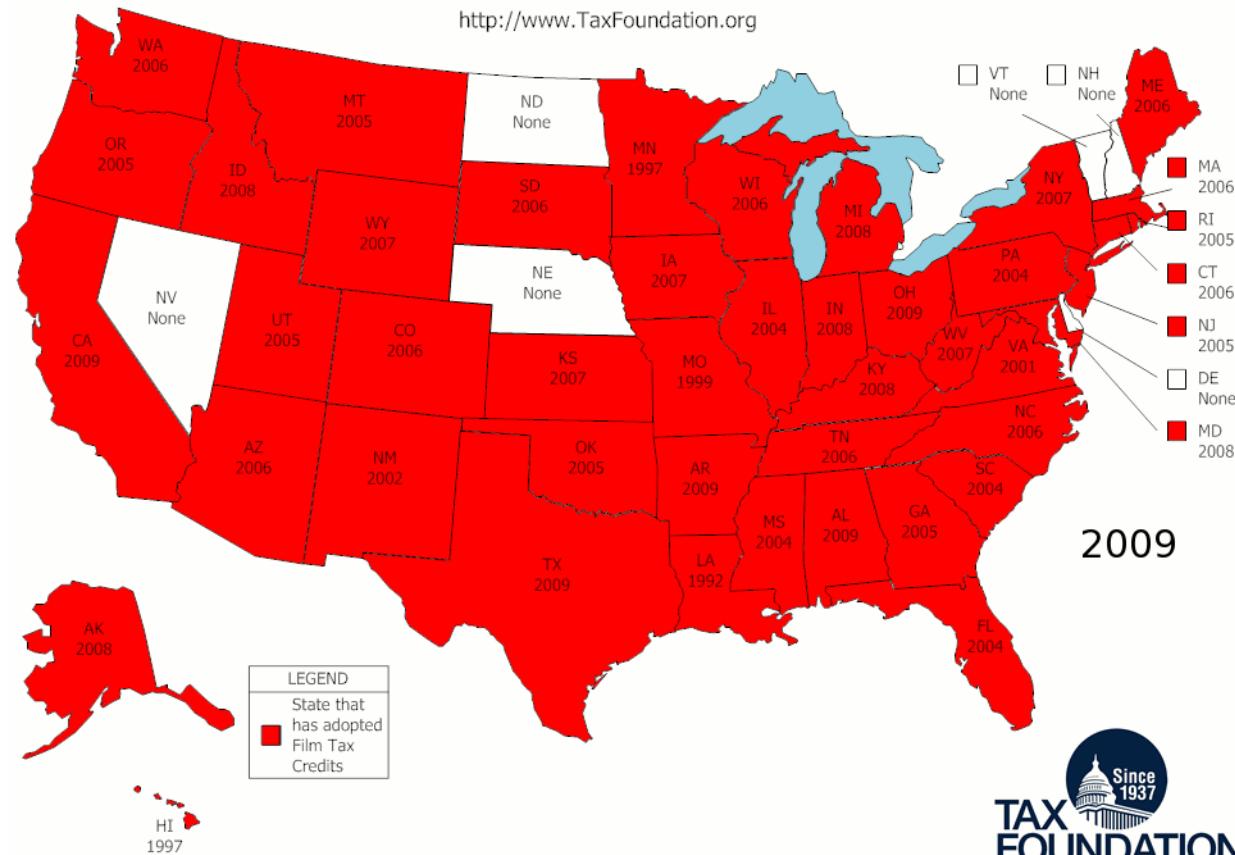
Assessing the Impact of Entertainment Industry Incentives



4/5/14

# Growth of MPIs by State 2002-2009

<http://www.TaxFoundation.org>



Source: Tax Foundation

Assessing the Impact of Entertainment Industry Incentives

4/5/14

# The Question of Industry Incentives

- Do they work in building sustainable industry clusters?
- Critiques:
  - ▣ “Race to the bottom”
  - ▣ Rent-seeking behavior
  - ▣ Need to address supply & marketing chains
  - ▣ Lack of accountability
  - ▣ Corruption

Assessing the Impact of Entertainment Industry Incentives

# The Motion Picture Industry: A Special Case?

- Unique modes of production (project-based)
- Unique location requirements (studio & remote)
- Unique labor organization (network of large & small firms and individual contractors)

# Research Questions

- Can MPIs create a self-sustaining local industry?
  - Do MPIs increase local industry employment?
  - Do higher MPIs perform better than lower ones?

# Do MPIs create a sustainable industry?

- Little academic research on film industry & economic development
- Prior research has focused on short-term fiscal & economic impacts
- I look at local jobs and firms

# Data

- County Business Patterns (CBP), 2002-2010
- American Community Survey microdata (ACS) 2007-11 Pooled
- Georgia QCEW (ES-202) data
- Collected data from states on MPIs
- Dependent Variables:
  - # of employees
  - # of establishments
- Independent Variables:
  - MPIs
  - State location quotient – Motion Picture Industry (5121)
  - National film industry emp. growth
  - State employment growth

# Data Issues

- Dropped 6 states with no tax incentives
- Dropped 22 states with suppressed data
  - More than 3 periods with missing emp. Data
- 22 states remaining for analysis
- CBP doesn't match ES-202 data
  - Assumed similar proportionality

# Selected NAICS for MP Industry

NAICS	Industry
5121	Includes:
512110	Motion Picture & Video Production
512120	Motion Picture & Video Distribution
51213	Motion Picture Exhibition*
512191	Teleproduction & Other Postproduction Services
512199	Other Motion Picture & Video Industries

\*Exhibition is often 50% or more of total employment in 5121, so it is removed when possible.

# Methodology

- Compare growth in industry employment and establishments to incentive levels (descriptive data)
- Used panel data regression analysis to assess incentive levels impact on employment growth
- Used LQ, national film growth & state job growth rates as control variables
- Used contemporaneous and lagged DVs

# Film Industry Job Growth

- 15 of 22 states showed positive growth
- 14 of 22 states had growth > all job sectors
- 4 of 22 states showed growth > US MP industry

Assessing the Impact of Entertainment Industry Incentives

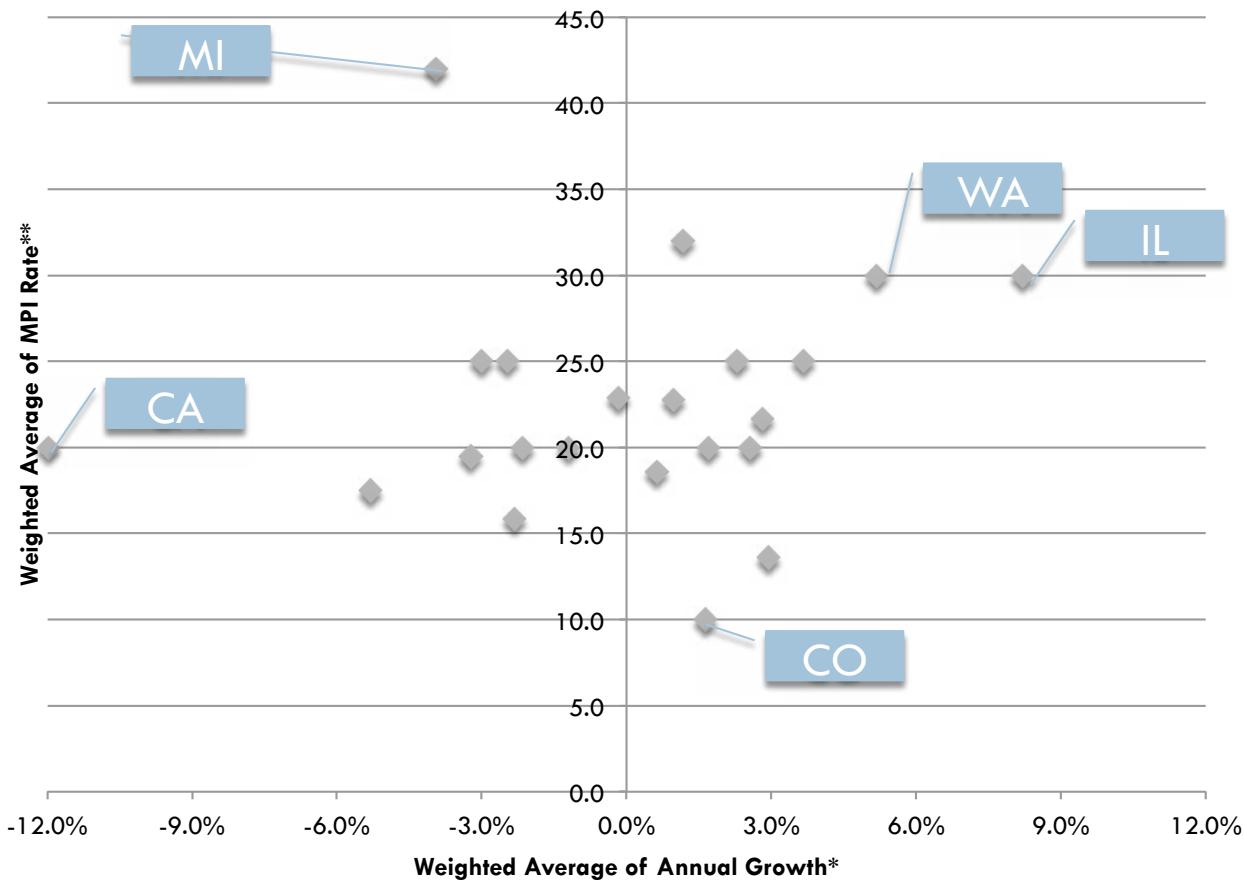
# Film Industry Job Growth

- Only 4 states outperformed the US in job growth

State	2002-2010 Growth
California	45.0%
Texas	40.4%
Oklahoma	19.8%
Washington	17.4%
<b>US</b>	<b>16.5%</b>

Assessing the Impact of Entertainment Industry Incentives

# Film Industry Annual Growth Rate by MPI, 2002-2010



Assessing the Impact of Entertainment Industry Incentives

# Panel Data Regression

1. Contemporaneous DV
2. Contemporaneous DV w/change variable
3. Lagged DV
4. Lagged DV w/change variable

VARIABLES	1 ln(5121 Emp)	2 ln(5121 Emp)	3 ln(5121 Emp)	4 ln(5121 Emp)
ln(5121 Emp) 1-yr. lag			-0.209	-0.222
MPI	-0.00103	-0.00202**	-0.000125	-0.000501
	-0.000763	-0.000829	-0.000577	-0.000839
Change in MPI		-0.00120**		-0.000504
		-0.000572		-0.000518
State Emp Growth	0.107	0.282	-0.0623	-0.0433
	-0.339	-0.385	-0.364	-0.457
State LQ (5121)	0.625***	0.607***	0.667***	0.663***
	-0.15	-0.139	-0.138	-0.135
y2003	-0.0916***	-0.164***		
y2004	-0.0429	-0.117***	0.0244	0.014
y2005	-0.0317	-0.0965***	0.0297	0.0121
y2006	0.00153	-0.0663*	0.0475**	0.0202
y2007	-0.018	-0.0771***	0.0154	-0.0199
y2008	0.0526***	-0.000991	0.0700***	0.0276
y2009	0.0443***		0.0514***	
Year			0.008	0.0183**
Constant	8.110***	8.202***	-6.183	-26.66*
	-0.227	-0.222	-10.21	-15.41
Observations	170	148	138	116
Number of States	22	22	22	22

All (-) coefficients

## Assessing the Impact of Entertainment Industry Incentives

# Panel Regression Analysis

- MPI only significant in one model, and in opposite direction
- Change in MPI only significant in one model, and in opposite direction
- LQ significant & positive in all models
  - ▣ Suggests path dependency

# Urban Nature of Film Employment

- Nationally (2007-2011)\*
  - 93.5% of total film employment in metros
    - 32.1% of total metro film employment in CC
    - 35.0% of total metro film employment in suburbs
    - 32.9% of total metro film employment unknown
  - 43.3% of total film employment in CC\*
- Georgia (2011)\*\*
  - Nearly 90% of GA film employment in 4 counties in the Atlanta MSA (87.4% in Fulton, Gwinnett, Cobb & DeKalb Counties)

\*Source: ACS 2007-11 Pooled Sample. Calculated for all film jobs with known locations

\*\*Source: Georgia ES-202 data (firm level). Does not include 51213 Film Exhibition employment

# Top Metros for Film Employment

Rank	MSA	Total	Pct. CC	Pct. Suburbs	% of Total MP Emp	% of Total Cum. Pct.
1	Los Angeles-Long Beach	132,303	43.0%	30.0%	27.0%	27.0%
2	New York-Northeastern NJ	50,724	67.2%	31.2%	10.4%	37.4%
3	San Francisco-Oakland	14,771	27.1%	46.7%	3.0%	40.4%
4	Chicago, IL	12,704	45.3%	33.2%	2.6%	43.0%
5	Dallas-Fort Worth, TX	9,396	9.7%	35.6%	1.9%	44.9%
6	Washington, DC/MD/VA	8,836	22.0%	71.7%	1.8%	46.7%
7	Atlanta, GA	7,737	5.6%	73.7%	1.6%	48.3%
8	Riverside-San Bernardino	6,841	12.3%	55.1%	1.4%	49.7%
9	Boston, MA/NH	6,268	33.6%	54.5%	1.3%	51.0%
10	Philadelphia, PA/NJ	5,707	31.9%	67.1%	1.2%	52.1%

Assessing the Impact of Entertainment Industry Incentives



ANDREW YOUNG SCHOOL  
OF POLICY STUDIES

4/5/14



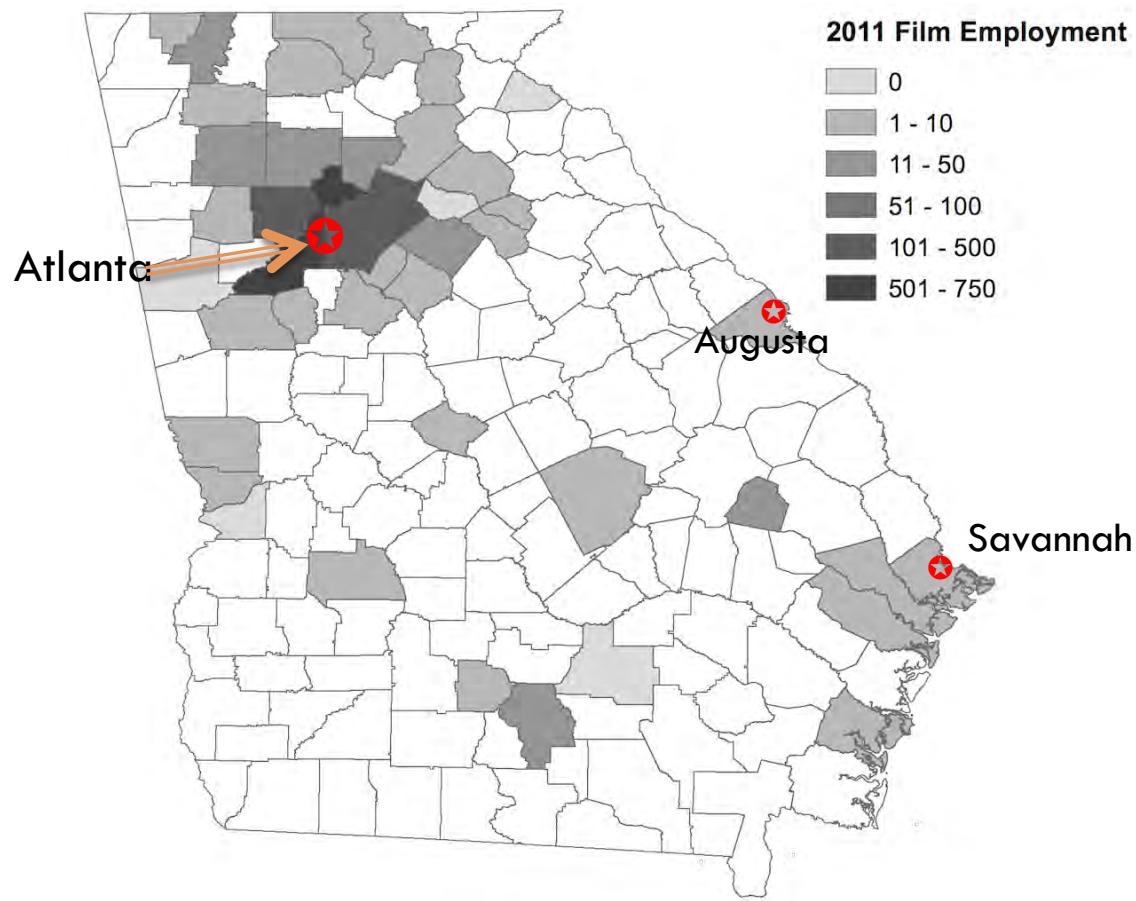
# Top Metros for Film Employment\*

- Over 1/2 of jobs in top 10 Metros (52.1%)
- Over 1/3 in top 2 Metros (LA & NY) (37.4%)
  - Los Angeles MSA 27.0%
  - New York MSA 10.4%

\*Data from ACS (individual, not firm-based)

Assessing the Impact of Entertainment Industry Incentives

# Georgia Film Employment



Assessing the Impact of Entertainment Industry Incentives

# Summary of Findings

- Use & level of MPIs rising (through 2010)
- No clear effects on employment growth
- All but 4 states did not outperform national industry job growth
- Panel analysis showed weak correlation between MPIs & film job growth, possibly negative
- LQ more important than MPIs in predicting growth
- Film employment *is* urban employment

# Conclusions

- Descriptive data do not support hypotheses
- Regression models do not support hypotheses
- Benefits accrue to states with existing industry
- Metros do better than states overall

Therefore...

- MPIs alone not likely to build self-sustaining local industry

# Policy Implications

- Caution in using MPIs
- Learn lessons from other incentive programs
  - Better enforcement of programs
  - More targeted incentives
    - e.g., local hires, local producers, etc.
- Path dependency & cumulative causation important
- Importance of specialized infrastructure
  - CA and NY have some of the highest growth rates

# Future Research

- Refine MPI data for states
- Look at post-recession data
- More regression analysis to clarify effects

Assessing the Impact of Entertainment Industry Incentives



4/5/14



# For more information...

Ric Kolenda

[rkolenda1@gsu.edu](mailto:rkolenda1@gsu.edu)

[ric@gatech.edu](mailto:ric@gatech.edu)

<http://kolenda.com/web/research.html>

Assessing the Impact of Entertainment Industry Incentives