Legislative Budget and Finance Committee
A JOINT COMMITTEE OF THE PENNSYLVANIA GENERAL ASSEMBLY
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Pennsylvania's Film Production Tax Credit and Industry Analysis

Conducted Pursuant to Senate Resolution 2009-20 and
House Resolution 2009-127

May 2009

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To the Members of the General Assembly:

Senate Resolution 2009-20 and House Resolution 2009-127 direct the Legislative Budget and Finance Committee to study the effectiveness of 18 Commonwealth tax credit programs, including the Film Production Tax Credit. Due to the specialized nature of the film industry, the Committee sought expert assistance in developing the report, and in March 2009, the Committee contracted with the firm of Economics Research Associates to conduct this study.

The ERA report is contained herein. As with all LB&FC reports, the release of this report should not be construed as an indication that the Committee or its individual Committee members necessarily concur with its findings or recommendations.

Sincerely,

Philip R. Durgin
Executive Director

Project Report

Pennsylvania's Film Production Tax Credit and Industry Analysis

Prepared for

Legislative Budget and Finance Committee
Harrisburg, Pennsylvania

Submitted by

Economics Research Associates, an AECOM company (ERA|AECOM)

May 2009

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General & Limiting Conditions

Every reasonable effort has been made to ensure that the data contained in this report are accurate as of the date of this study; however, factors exist that are outside the control of Economics Research Associates, an AECOM company (ERA) and that may affect the estimates and/or projections noted herein. This study is based on estimates, assumptions and other information developed by Economics Research Associates from its independent research effort, general knowledge of the industry, and information provided by and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives, or any other data source used in preparing or presenting this study.

This report is based on information that was current as of April 2009 and Economics Research Associates has not undertaken any update of its research effort since such date.

Because future events and circumstances, many of which are not known as of the date of this study, may affect the estimates contained therein, no warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved.

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This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

Executive Summary

The Chicago office of ERA was retained by the Pennsylvania Legislative Budget and Finance Committee (LBFC) to review and estimate the scope of economic and fiscal impacts related to the Commonwealth's film tax credit (FTC) program. ERA specializes in economic analyses of all sectors, has conducted 18,000+ assignments in our 50-year history and completed more than 60 economic analyses of the film and motion picture sector since 2000. Over the course of this analysis, ERA reviewed the use of similar tax credit programs elsewhere and the overarching economic context for such programs, national industry trends and their implications for the Commonwealth, and estimated economic and fiscal impacts to the Commonwealth of its FTC program.

General Economic Development Context

The use of tax credit programs as an economic development tool is common at federal and state levels in the U.S. Most often such programs are geared towards industrial and manufacturing sectors as such sectors have high levels of "multiplier impacts" for local economies – successive rounds of local spending generated from the initial activity as well as associated employment, wages and fiscal impacts generated by this spending. The motion picture industry also has a high level of multiplier impacts and is in the top 10 percent of industries in the Commonwealth in terms of such impacts. This compares favorably with most industries, including pharmaceutical manufacturing which ranks 127th, whereas the film industry ranks 30th. The Commonwealth currently spends in the order of $300 to $400 million annually on manufacturing and industrial economic development assistance. The FTC program is currently capped at a maximum of $75 million annually.

A strong economic rationale exists in favor of supporting growth in industries which more intensively use the resources and talent needed in the economic activity of the future, thus developing a capacity that is better aligned with more forward-looking economic outcomes. The film industry in particular has some notable attributes reviewed in the report including: higher paying jobs, local spin-off potential, export potential, knowledge intensive jobs, talent retention, environmentally clean economic activity and increased tourism and promotional impacts to the Commonwealth.

The film industry is well aligned with future economic trends nationally and globally and the Commonwealth could expect to lose significant amounts of production activity statewide without such an incentive. In the current economics of the industry and the highly competitive landscape at state levels, the presence of a film tax credit for producers can be considered the price of admission for being considered for such activity. Such tax credits have demonstrated a strong causal relationship between the credit and levels of production activity in states, and producers locally and nationally indicate that their decision process is highly sensitive to access to credits. For these two reasons, film credits are a vital component of attracting production. What is more, for states that wish to retain the film industry, the costs of redeveloping such a capacity at a future point is likely to be much more costly than supporting and building on current economic capacity.

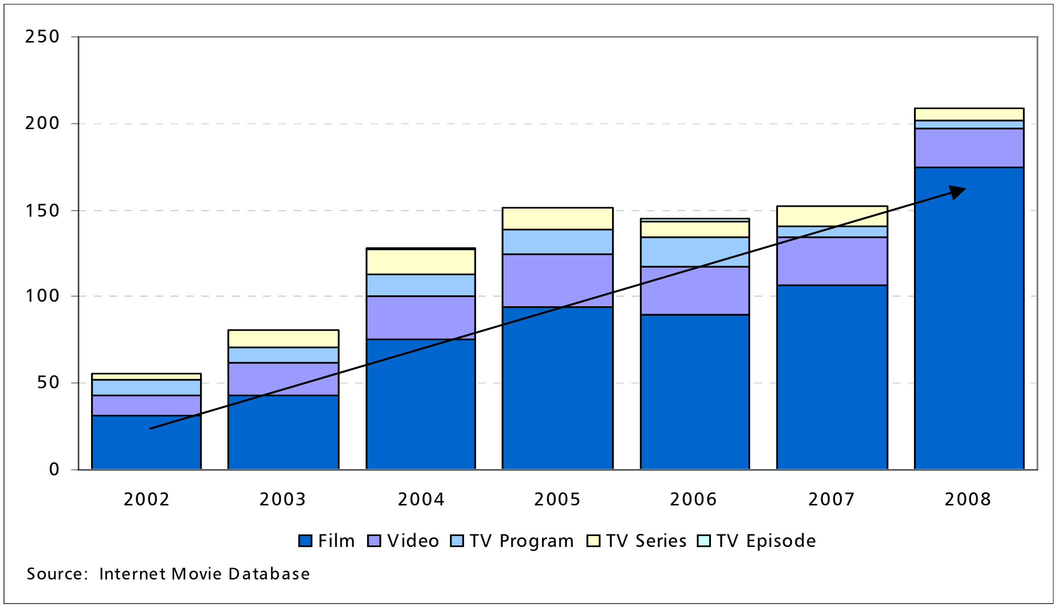
There are several important opportunities for enhancing economic impact of the industry which deserve note and are reviewed briefly in the body of this report:

- A focus on workforce and physical infrastructure development;
- Links to business development and talent retention programs;
- Alignment of the credit and its implementation to specific economic development goals;
- Defining and creating a durable niche.

Pennsylvania Film Activity

The major legislative changes in Pennsylvania correspond with noticeable increases in productions. The Internet Movie Database (IMDb) provides one of the broadest measures of production activity and includes feature films, television (TV) episodes, made for TV movies, TV series, direct to video movies and live action video games. According to IMDb, there have been 922 productions that were released between 2002 and 2008 that took place, all or in part, in Pennsylvania. Films dominate the industry with 615 productions over this time period and grew at a cumulative annual growth rate of 33 percent from 2002 through 2008.

Pennsylvania Productions, 2002-2008



Economic and Fiscal Impact Estimates

In fiscal year 2007-08, the Pennsylvania Production Tax Credit Program was enacted (Act 55 of 2007) which expanded the film production tax credit to $75 million per fiscal year. Approved productions are eligible to receive a tax credit for up to 25 percent of qualified film production expenses if at least 60 percent of the qualified production expenses occurred in Pennsylvania. The program is administered by the Pennsylvania Film Office, within the Department of Community and Economic Development.

There were 72 projects approved during FY 2007-08 of which three applications were withdrawn. As of April 2009, the remaining 69 approved projects had qualified spending estimated at $260.1 million. Due to the nature of motion picture productions, these expenditures occur over multiple fiscal years. Spending for approved FY 2007-08 projects is projected to occur through FY 2009-10. Based on information provided to ERA by the Pennsylvania Film Office, an additional $7.2 million was known to be spent by studios on construction, building renovations and/or equipment during FY 2007-08 which did not benefit from tax credits. This $7.2 million is not comprehensive, but a summary of readily available information obtained through interviews.

Using IMPLAN, an economic forecasting model, the total economic impact of the remaining 69 approved projects for FY 2007-08 and known ancillary activity has a net present value of $524.6

million. Approximately 3,950 jobs are supported by these projects with $146.4 million in wages. It is estimated that the state and local governments will receive nearly $18 million in revenues in the form of taxes, fees and permits as a result of the projects approved to receive Film Tax Credits in FY 2007-08 and known ancillary activity.

Cost Benefit Analysis

As of April 2009, $51.2 million in tax credits have been issued for FY 2007-08 projects. ERA estimates an additional $13.6 will be issued once audits have been completed and approved for FY 2007-08 bringing the total for the fiscal year to $64.8 million. Although the Pennsylvania Film Office had allocated the entire $75 million in tax credits, three applications were withdrawn. Since the actual qualified expenditures are approximately 10 percent less than the estimated expenses on the original application, the tax credits tied to those productions are obviously lower.

As with spending on productions, the tax credits will be issued and subsequently transferred over multiple fiscal years. ERA projects that the largest share of tax credits for FY 2007-08 projects, $30.3 million, will be issued in FY 2008-09, and $27 million are projected to be issued in FY 2009-10. The net present value of these tax credits is an estimated $58.2 million. This figure takes into account the time from project application, production, completion, audit, review and tax credit issuance and transfer.

Net Present Value of FY 2007-08 Projected Impacts

	Totals
Economic Benefits	
Direct Spending (millions)	$267.3
Output (millions)	$524.6
Wages (millions)	$146.5
Jobs	3,960
Fiscal Benefits (State and Local Taxes and Fees)	
Associated with FTC program	$17.9
Entire Industry	$62.7
Fiscal Costs	
Tax Credits Transferred (millions)	$58.2
Net Fiscal Loss/Gain	
Associated with FTC program	-$40.3
Entire Industry	$4.5

Sources: Pennsylvania Film Office; IMPLAN; ERA

Although the state and local taxes generated by the $524.6 million in total economic impact of the approved projects is $17.9 million, the industry as a whole brings the state and local governments $62.7 million in revenues from taxes, fees and permits. While there is a net fiscal loss when comparing the net present cost of the Film Tax Credit program ($58.2 million) to the taxes generated by productions directly receiving tax credits ($17.9 million), there is a net fiscal gain to the Commonwealth of $4.5 million when considering all of the revenues generated by the entire industry. While some of this activity would occur without the benefit of the FTC, a significant proportion of this activity would be at risk without such a tax credit program. As part of this analysis, ERA did not quantify what proportion of this activity would be at risk.

I. Film Incentives and Economic Development

The aim of this section is to set the use of incentive programs broadly, and the Pennsylvania Film Tax Credit program specifically, into an appropriate economic context. This section addresses a number of economic issues, including the impact of competitiveness between states currently in the film industry, the rationale for incentive programs and the Film Tax Credit, the collateral economic impacts of increased production activity and the potential for enhancing the economic and fiscal impacts of current production.

Use of incentive programs as a tool in industrial and economic development policy is common across the U.S. at both the Federal and State levels. Incentives are implemented to achieve economic outcomes which would not otherwise occur in a particular market. Generally, the use of such programs is intended to either:

1. To foster economic growth and innovation in industries which are well aligned with future economic needs and goals; or

2. Stem the decline of, and loss of jobs, wages, and capacity in an industry which is critical.

While the current Pennsylvania Film Tax Credit is largely an effort of the latter, given the current highly competitive nature of film production between U.S. states and countries internationally, it is also, in part, a practice of the former. This is to say that while the film industry is well aligned with future economic trends, the Commonwealth could expect to lose significant amounts of production activity statewide without such a credit.

The use of incentives to help stem the decline of critical industries is perhaps most common and widespread in manufacturing and industrial policy, while generally fewer incentives are common with respect to forward-looking economic growth initiatives. Pennsylvania's economic development incentives are an example of this phenomenon. The Governors' Action Team (GAT) estimates that between 2003 and 2007 some $1.2 billion in State assistance was offered in to the manufacturing sector, and continuing efforts range in the order of $300-$400 million annually. While such policies are common, a strong economic rationale exists in favor of supporting growth in industries, such as the film industry, which use more intensively the resources and talent needed in the economic activity of the future, thus developing a capacity that is better aligned with more forward-looking economic outcomes.

As will be discussed in greater detail later in this section the film industry has a number of favorable attributes including:

- High ratios of **employment** wages to the overall costs of production;
- Relatively **higher paying jobs** as compared to both other industries overall, and similar types of work in other industries;
- Significant potential for **local spin-off** including new business, technical innovation, and infrastructure;
- Film and media is currently and likely to remain one of the **core U.S. export** markets of the future;
- It is a core component of creative industries, which show a strong statistical relationship to the presence of higher paying, **knowledge-intensive jobs** such as high technology, and an enhanced potential for **retention of young talent**;
- It is a relatively **clean industry** which does not produce significant negative environmental impacts that need to be mitigated;
- There is a generally recognized link between tourism and media production activities that, while difficult to quantify, is supportive of **increased tourism** levels;
- Broader benefits of **marketing and promotion** of the Commonwealth are realized when production occurs in the state, which can enhance the attractiveness and image building efforts.

The number and use of incentive programs has evolved significantly in recent years. In response to the loss of production activity and the visible success of other places using incentives to attract production (most notably in Canada), many U.S. states have enacted similar programs in recent years. Early adopters included programs in the states of New Mexico and Louisiana, and the number of programs has grown from just a small few around 2002 to a current count of 42.

In the present economics of the industry, the presence of a competitive film production incentive for film producers can be considered the price of admission for being considered for such activity. Such incentives have demonstrated a strong causal relationship between the incentive and levels of production activity in states, and producers locally and nationally indicate that their decision process is highly sensitive to access to incentives. For these two reasons, film incentives are a vital component of attracting production in order to realize the primary benefits indicated previously. For states that wish to retain the film industry the costs of redeveloping such a capacity at a future point is likely to be much more costly than supporting and building on current economic capacity.

Competitive Film Production Incentives

Until recently, and especially within the last four years, few states had meaningful film and television production incentives in place. In recent years, states have begun to enact labor based tax credits and other incentives that are modeled after the Canadian provinces. A list of the existing types, amount of the benefit, and current project and annual funding caps by province appears in Appendix A.

Of the 50 U.S. states plus the District of Columbia, only 8 do not offer direct incentives to film producers at this time. A total of 10 states, including Connecticut, Georgia, Hawaii, Illinois, Maine, Montana, New Mexico, North Carolina and Wisconsin have no annual caps on state funding for these incentives. Pennsylvania currently has an annual cap of $75 million for the 25 percent tax credit to films that spend at least 60 percent of their total budget in the Commonwealth. All else being equal, not having an incentive cap is a competitive advantage for states pursuing film production activity.

New Mexico and Louisiana were among the first states to introduce production incentives. As such, they have achieved a “first mover” advantage and are currently on the top of U.S. studios’ “short list” of states to consider for film production. In discussions with Los Angeles-based producers, it is ERA’s understanding that if none of a small number of states with the most aggressive film incentives (Connecticut, Georgia, Louisiana, Michigan, New Mexico and New York) can accommodate: (a) the infrastructure requirements; (b) the available crew requirements; and (c) the creative considerations of the screenplay, then other states and/or countries are given consideration.

A review of existing film tax credits in the U.S. states and District of Columbia can be found in Appendix A. The table includes:

- The amount (percentage) and type (refundable, transferable, cash rebate or grant) of the existing credit;
- Whether a carry-forward period exists and the number of years;
- Project caps and state funding caps (if any) per year;
- Infrastructure tax credits;
- Wage/withholding credits; and
- Other incentives such as sales tax and lodging exemptions.

Economic Development Rationale

In this section of the report, ERA includes a more expansive review of the several core rationales for supporting the film industry. These are as follows:

Employment

One of the most direct impacts is relates to the high labor intensity of the industry. In the U.S., an estimated 60 to 70 percent of the average film or television budget goes into salaries. As such, production activities are often significant employers in the locales where they shoot, provided that the workforce is up to task locally.

According to data from the U.S. Department of Labor, Bureau of Labor Statistics (BLS), in 2007 (the most recent year for which full data is available) the U.S. had approximately 357,000 persons employed in the motion picture and video industries that year. This represents a slight decline of 3 percent from levels three years prior in 2004 (368,000 employees), but remains unchanged from 2006 levels. It should be noted that many individuals work in the motion picture and video industries on a freelance, contractual, or part-time basis. In general, the motion picture industry depends on contingent labor and small business enterprises.

Higher Paying Jobs

Employment of a local workforce is particularly noteworthy since film production/crew jobs tend to pay higher wages than comparable employment using the same skills. For instance, a greens man (maintaining greenery of a set) or costume designer working on a film production can earn nearly double their regular earnings from what they would otherwise make in a non-production-related job. This is also generally the case of other trades such as carpentry, as a carpenter can typically make more on set design and construction than similar work on building construction. The motion picture production industry also involves highly-skilled, high wage employment.

BLS data for 2006 compares the average hourly earnings of wage and salary workers in motion picture and video industries to similar jobs in non-production. As shown below, persons working in similar production-related jobs earn considerably more than their counterparts in similar jobs outside of the industry. For example, producers and directors engaged in motion picture/video production are paid an hourly wage that is, on average, 26 percent higher than similar jobs in other industries (e.g., theatrical producers/directors). Therefore, one of the direct benefits of motion picture production is the creation of higher paying jobs.

Table 1 – Comparable Salary Data (May 2006), Film Industry vs. All Industries

Occupation	Median Hourly Wage	All Industries	Variance
Producers and Directors	$34.01	$27.07	25.6%
Film and Video Editors	$25.76	$22.44	14.8%
Camera Operators, Television, Video, and Motion Picture	$21.16	$19.26	9.9%
Audio and Video Equipment Technicians	$16.60	$16.75	-0.9%
Entertainers and Performers, Sports and Related Workers, All Other	$15.58	$15.11	3.1%

Source: Bureau of Labor Statistics

Local Spin-Off

Aside from labor and the creation of higher-paying jobs, local sectors that directly benefit from production include: businesses directly related to production activities, transportation, lodging, car and truck rentals, gas stations, food and beverage establishments, other retail, construction and repair, equipment rentals, personal, business and government services, as well as other location expenses. As an example, the former television series, *Dawson's Creek*, spent more than $1 million locally per episode on local goods and services in the Wilmington, North Carolina, area where it was filmed. Local citizens may also benefit from hosting film, television and media productions in their communities. Individuals may receive location fees for the use of their homes, etc. Community associations, churches, recreation centers, and other community organizations benefit from donations and location fees for the use of their facilities and in gratitude of community support.

Incoming production companies often utilize the facilities and services of local production firms, thus generating new corporate revenue for them and strengthening their competitive position even further. Many Pennsylvania companies have indicated that the tax credit program has created additional work that is directly related to the credits, but also some additional work that can be leveraged from the credit related projects. This is to say that while the film tax credits can create direct income and therefore employment for Pennsylvania firms, this work can also enable additional work which is not eligible for the credit, but would not have been possible without credit-related work. In ERA's experience, this is not unique to Pennsylvania and a common characteristic of increased activity.

In addition to the more near-term economic benefits such as job creation and the utilization of local goods and services, more long-term benefits associated with consistent motion picture production include development and establishment of spin-off film production activities such as editing, sound production, creative and artistic activities, and development of permanent facilities. The benefits of an existing film support network, such as the one that currently exists in Pennsylvania and is profiled in Section III below, to an incoming film industry may ultimately prove to be one of the most important factors in a film incentive competition between states.

Another direct, albeit less frequent, impact of motion picture production is the incidental creation of film infrastructure when a large-budget production comes to town. The most notable such case is the creation of Fox Studios Baja in Mexico. This studio was created by film director James Cameron when he was shooting the 1997 blockbuster, *Titanic*. The studio has since expanded and is used for a variety of productions ranging from feature films, commercials and video shoots.

The Philadelphia region is currently experiencing a similar phenomenon with the transformation of a 100,000-square-foot U.S. Navy seaplane hangar at a former Navy Yard into a soundstage for the upcoming Paramount Pictures' production *The Last Air Bender* (2010). The feature film is a M. Night Shyamalan production, and the transformation was paid for by Paramount Pictures as part of their investment to make this movie. The movie is currently shooting in Philadelphia and other eastern Pennsylvania locations.

Core U.S. Export Market

It has long been the case that the media and entertainment markets are some of the more significant net export industries for the U.S. Indeed, according to a recent study by the Motion Picture Association of America (MPAA) based on government data this industry produced a net positive trade balance of $13.6 billion in 2007, or roughly 10 percent of the U.S. private-sector surplus in services. This level shows significant growth in recent years and is the highest since detailed industry records began. Given the historical U.S. dominance in media exports internationally and the likely future trend towards increased disposable income internationally, it is likely that this sector may continue to produce outsized net export gains.

Knowledge-Intensive Jobs and Talent Retention

The film industry depends on the synergistic relationship of creative arts professionals and skilled technicians working in highly specialized crafts. For example, writers, painters, actors, directors, etc., all benefit by working on a production or merely being close to it. What is more, a recent study by the Entertainment Economy Institute for the LA Center for Excellence found a significant "cross-over" between skills that allow entertainment workers to successfully compete for jobs in other industries, particularly for non-industry specific skills such as computer programming. The film and television production industry is increasingly making use of digital and computer technologies, and thus increasing overlap and synergies with such important high-technology sectors are anticipated.

Workers employed in industries that use extensive digital and computer technologies have applicable skill sets to the film industry and may sometimes "cross work" between their primary employment industry and the film industry. For example, pharmaceutical and medical equipment/supplies companies employ digital artists to visually present and market their products, and offer cross working opportunities in the film industry. As well, states on the Gulf Coast with high levels of coastal oil and gas exploration also offer cross working opportunities. Many digital artists also work in the fast-growing video game industry. As such, synergies and opportunities may exist between related industries including computer gaming, and the internet/e-commerce, which support development of a cluster of highly skilled and creative technology-driven industry.

There is a strong correlation between vibrant and creative industries and the presence of these types of high-paying knowledge intensive industries such as high technology. Some well-known examples of where this has occurred with significant impact to the overall economy include Austin, Texas, and San Francisco, California. Increasingly, the quality of place and quality of life are key determinants of economic growth and the ability to attract quality workers in a globalized knowledge economy as noted by Richard Florida in his book, *The Rise of the Creative Class*. These correlations are only likely to increase as we enter the digital age and the "democratization" of film production and new distribution modes increase.

In sum, the presence of a film and television industry in Pennsylvania enables and supports the development and retention of local creative talent. This would help thwart the "brain drain" that impacts many secondary and tertiary production centers throughout the U.S.

Clean Industry

As mentioned previously, this industry segment is relatively clean environmentally. Many other industries, especially the manufacturing and industrial trades, produce negative environmental impacts which need to be mitigated. As a result, both financial and environmental pollution costs of film and media industry activity are relatively low.

Tourism Impacts

Perhaps the most notable secondary impact associated with film production is increased tourism. A film product helps to sell specific places and/or cultures – which entire departments of tourism aim to do. Tourism is a long-term impact of local film production, particularly when it showcases cultural or natural resources. The following are specific examples of tourist impacts associated with film and television production:

- Devil's Tower National Monument in northeast Wyoming experienced a 75 percent increase in tourism following the release of *Close Encounters of the Third Kind* (1977).

- When *The Bridges of Madison County* was released in 1995, locals began offering tours of the county's covered bridges in Iowa. Eleven years later the bridges still draw an estimated 50,000 visitors per year to Madison County.
- The HBO series, *Deadwood*, has drawn tourists to the small city in the Black Hills of South Dakota. Prior to the March 2004 debut of the series, the city drew an estimated 1.2 million visitors annually, and tourism increased an estimated 800,000 additional visitors per year.
- The feature film, *Sideways* (2004) has been a boon to the Santa Barbara/Santa Ynez region. The Santa Barbara Conference and Visitors Bureau produced, *Sideways – The Map*, a guide to the film's locations before the picture was released. A local tour company has even created a now popular *Sideways* tour and another firm has a "snob-free" winery tour that includes some of the movie's locations.

The success of the hit television series *The Office*, which is set in Scranton (Lackawanna County) but filmed on a Los Angeles soundstage, has also had a substantial impact on local tourism there. As well, QVC Studio Park reports notable annual tourist visitation to their facilities. In 2008, they welcomed approximately 100,000 visitors, half of which were leisure visitors participating in the audience, taking a studio tour or attending a special event.

Marketing and Promotion

Broader benefits of marketing and promotion of the Commonwealth are realized when production occurs in the state, which can enhance the attractiveness and image building efforts. As an example, the Pennsylvania Department of Community and Economic Development (DCED) requested of its media consulting agency, Harmelin, in 2001 an estimate of what the comparable value of purchasing publicity would be compared to a film shot in Pennsylvania. The film, *Wonder Boys*, which featured the Pittsburgh area in location shooting and by name was estimated to have a media impact in the order of $900,000 in its theatrical debut alone. This is to say that the Commonwealth would have had to purchase $900,000 of media advertising to receive a comparable level of publicity. While such impacts are common and sometimes significant, they are typically not included in economic impact analysis because the financial and time costs involved in actually proving the level of impact for all films shot in the Commonwealth are prohibitive.

Enhancing Economic and Fiscal Impacts

While this study is not a full industry strategy analysis, there are at least a few important opportunities for enhancing economic impact of the industry which deserve note. States and countries often focus on the following areas of emphasis to enhance the impacts of current levels of film activity:

- **Workforce and physical infrastructure development.** Workforce is typically the most important consideration when productions make decisions on where to film. For any film with notable budgets of several million dollars or more, producers do not want to take a chance with insufficient labor depth or experience as this can directly and significantly impact total costs to produce. As well, all else being equal, the presence of usable quality infrastructure can be a deciding factor in ultimate production location decisions.
- **Links to business development and talent retention programs.** While tax credit programs increase the level of employment in a region, it is also important to create strong links to educational and certification programs. Retention of young talent in a region is an important function of such programs, especially given the long term contributions of such residents to future economic development goals and resident tax bases.
- **Operational program adjustments.** It is often the case that tax credit programs can be modified in a way that enhances their ultimate economic and fiscal impacts. Once precise economic development goals are defined, credit programs can be tailored to those goals. For example, if increasing employment is the primary goal, greater emphasis on providing a tax credit for Pennsylvania resident employment can be emphasized, and certain types of production such as TV programs and lower budget features of $2-$20 million can often create greater levels of impact given their relatively more intensive use of local resources.
- **Defining and creating a durable niche.** While the current state of competition in the industry necessitates a tax credit as a basis for competition, such incentives should be used with an eye towards defining and developing a defendable market niche. A durable market position can help to 1) support the goal of maintaining workforce, infrastructure, and business capacity through the current competitive realities of the industry, and 2) produce a strong basis for further growth in the industry once the level of competition subsides.

II. Review of Key Motion Picture Trends

To assess Pennsylvania's competitive position, it is first necessary to look at relevant trends in film production. The "motion picture industry" is a broad term that includes feature film and television product, as well as music videos, commercials, business, industrial and government films. More recently, it includes video games and short film product made for distribution on the Internet, and other mobile technology (i.e., cell phones, video iPods, etc.). The purpose of this section is to evaluate the characteristics of film, television, video and commercial industries, and other technologies, with the intention of pinpointing those trends that enhance the potential of the industry to grow in Pennsylvania.

The Evolution of Film Production

Dominated by several large studios based primarily in Los Angeles, the Hollywood studio system has historically produced much of the world's film and television product. Now with growth in other mediums of entertainment such as cable television, the Internet and mobile devices, many independent small- and medium-sized companies have been established to meet growing demand in areas outside of Los Angeles. Many states now offer an array of financial incentives to attract production to their communities.

The studio majors consist of six diversified media conglomerates. These conglomerates and their studios include:

- Sony/Sony Pictures;
- New Corporation/Fox Filmed Entertainment (20th Century Fox);
- The Walt Disney Company/Walt Disney and Touchstone Pictures;
- Time Warner/Warner Bros.;
- Viacom/Paramount Pictures; and
- General Electric/NBC Universal.

The majority of today's "Big Six" companies include formerly independent companies that have been acquired under the corporate umbrella. The majors have also established specialty divisions to concentrate on art house pictures. Examples include Paramount Vantage and Fox Atomic.

The major studios today are primarily backers and distributors of films whose actual production is largely handled by independent companies. There are thousands of small, independent production and/or distribution companies throughout the U.S. The two largest independent producers/

distributors are Lionsgate and The Weinstein Company, which are sometimes referred to as "mini-majors."

New Revenue Streams

Ticket sales for feature films exhibited in movie theaters once represented movie studios' primary revenue generator. Today, movie studio revenues are much more diverse, coming from retail sales of DVDs, downloads from Movielink, DVD rentals, and cable television rights. People play movies on their computers, televisions, and iPods – even in the seats in front of them on airplanes. Exhibition of movies in cinemas presently accounts for an estimated 15 percent of most studios' revenues.

As such, studios have increasingly begun to make significant investments in non-entertainment entities, diversifying away from traditional film and television business. Operating profits from the entertainment sector of Time Warner, for example, declined significantly from 80 percent of the total in 2004 to only 44 percent in 2007. In March 2008, Time Warner spent $850 million for a social networking site, Bebo, with little potential to complement its film and the television operations.

Main Products

The following is a brief overview of relevant trends in the visual (film, television, commercials, etc.) production industry. Broadly speaking, there are five to six types of products which are part and parcel of three main production and distribution processes. The following are the most common products created in the visual production process. With the exception of feature films that achieve theatrical distribution, industry wide data on television, commercial and industrial products, such as total volume of productions produced each year, is not available for the broader categories:

- **Feature Films** can be divided into higher budget "blockbuster" films and lower budget feature films. Blockbusters have budgets typically ranging from $30 million to $100+ million, whereas smaller budget features have budgets closer to a $2 to $20 million or so range per film. Daily shooting rates run as high as several thousand (or tens of thousands) of dollars per day. Both feature film products are typically intended for theatrical distribution (either small, or large-scale), though they derive significant income from repurposing for TV, DVD, and other sales.
- **Movies of the Week (MOWs)** are "made for TV" movies. They are more cost sensitive than most other types of film product, and typically have modest budgets ranging from several hundred thousand dollars to several million dollars. In many ways, MOW productions are similar to low budget features in their cost sensitivity and common production expenditures.
- **Television Series** are perhaps the best source of steady income in the industry. Each half-hour episode takes an average of four days to shoot, while a weekly hour series takes approximately one week of shooting time, part of which is spent on location. The average price of an hour-long network series ranges as much as $2 million per episode, and one-half-hour sitcoms can cost as

much as $1 million per episode. A television series consists of 26 episodes. A single television series could be expected to use 150+ day per year in the location where it is produced;

- **Television Pilots** for prospective series are similar to MOWs. Since their budgets are low, they are extra-sensitive to costs;
- **Music Videos/Short Form** also have very low budgets and thus are sensitive to costs; as new distribution platforms emerge (e.g., Internet, iPods), the demand for these types of productions is likely to increase. Production costs typically range from several thousand to several hundred thousand dollars.
- **Industrial** (Commercials & Communications/Training Videos) have smaller budgets, but for local businesses, can produce higher margin returns per unit of production. Commercials are typically shot in areas with high concentrations of industry (i.e., Los Angeles, New York, etc.), though regional commercials are shot throughout the U.S. for local/regional companies.

These types of products are usually created for one of three main purposes:

- Theatrical distribution in the U.S. and/or internationally. Such films are typically later repurposed and sold in television and home entertainment markets (DVD, etc.);
- The television market – shows, commercials, music videos, etc. – which is a significant market supported most notably by advertising sales and also subscription costs.
- The new media market, such as the Internet, mobile devices, and electronic games. Market spending on these types of media is growing at a significantly faster average annual rate than traditional media as shown in the following table.

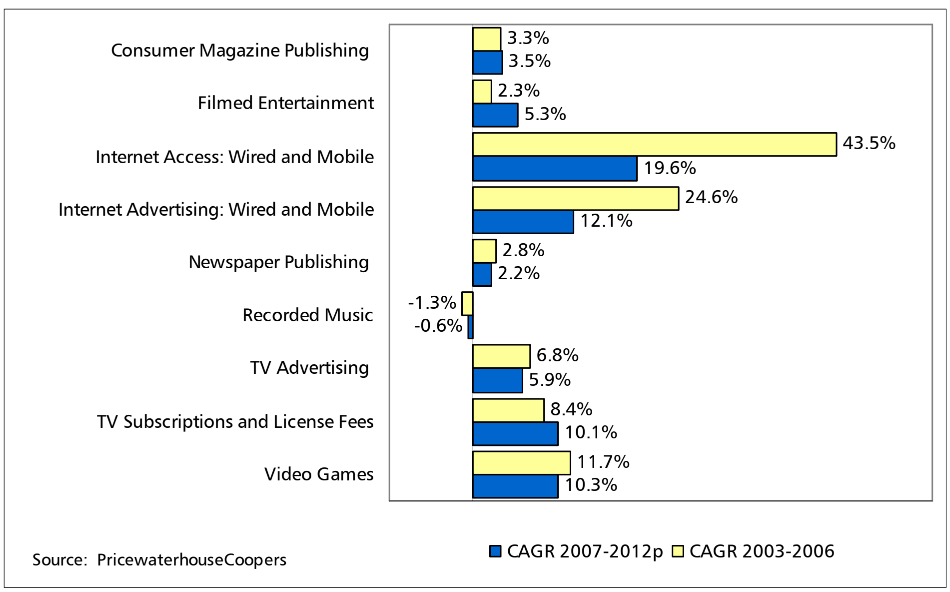
The following table and chart indicate that spending across most media segments has grown significantly from 2003 through 2006 and is expected to remain robust into the future. For example, spending on internet advertising had a cumulative annual growth rate (CAGR) of 25% from 2003 through 2006 and is expected to grow at an average annual rate of 12 percent through 2012. Internet access, video games and TV licensing and subscription fees are all expected to continue at double-digit annual growth rates through 2012.

Table 2 – Global Entertainment and Media Market Spending, Past and Projected

Past Growth 2003-2006	2003	2004	2005	2006	CAGR		
Internet Advertising: Wired and Mobile	85,371	108,529	135,837	165,337	24.6%		
Internet Access: Wired and Mobile	12,568	17,743	25,481	37,161	43.5%		
TV Subscriptions and License Fees	125,501	136,073	148,222	160,070	8.4%		
TV Advertising	128,307	142,269	147,086	156,440	6.8%		
Recorded Music	36,228	36,526	35,765	34,861	-1.3%		
Filmed Entertainment	78,351	83,954	81,661	83,781	2.3%		
Video Games	23,667	26,869	28,395	32,954	11.7%		
Consumer Magazine Publishing	71,244	74,245	77,169	78,629	3.3%		
Newspaper Publishing	171,067	177,124	182,323	185,891	2.8%		
Projected Growth 2007-2012	2007p	2008	2009	2010	2011	2012	CAGR
Internet Advertising: Wired and Mobile	192,905	224,205	255,742	284,350	313,322	340,993	12.1%
Internet Access: Wired and Mobile	49,191	62,191	77,151	91,489	106,235	120,365	19.6%
TV Subscriptions and License Fees	173,541	188,663	208,827	232,568	255,814	280,791	10.1%
TV Advertising	162,302	176,289	181,555	194,876	200,801	215,822	5.9%
Recorded Music	33,437	32,180	31,802	31,659	32,016	32,478	-0.6%
Filmed Entertainment	85,904	88,879	93,404	98,821	104,907	111,199	5.3%
Video Games	41,948	48,322	52,815	57,729	61,558	68,345	10.3%
Consumer Magazine Publishing	80,251	82,613	85,231	88,338	91,531	95,109	3.5%
Newspaper Publishing	186,164	187,315	190,442	195,917	201,675	207,817	2.2%

Source: PriceWaterhouse Coopers

Figure 1 – Average Annual Rate of Change in Media Spending, Past and Projected

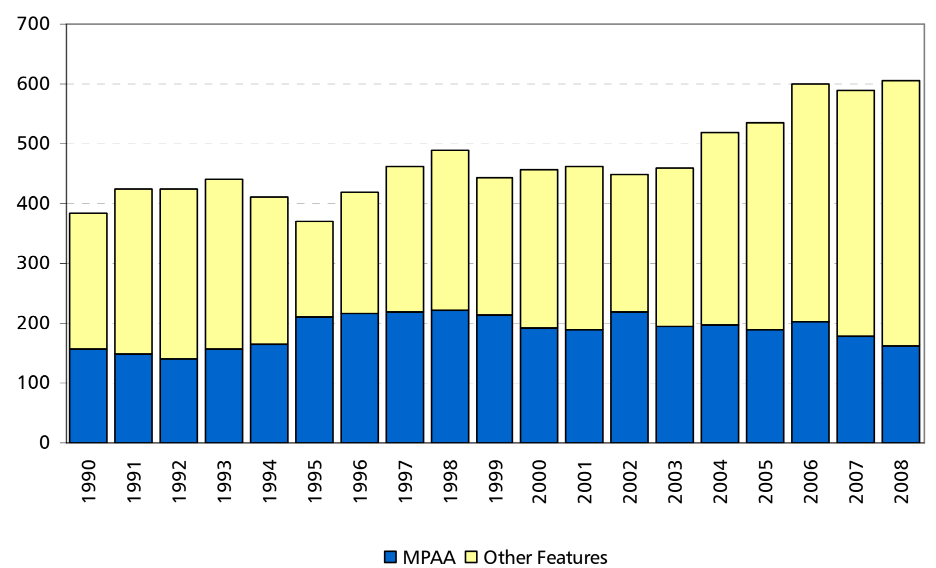


Trends by Type of Production Category

Feature Film Industry

Contrary to media reports, the movie industry is not in a state of decline, but rather a state of change. As independent films become more popular, and as DVDs penetrate into more and more households, it does not appear that major studios' core business is threatened, though substantial operational changes may be needed. According to the Motion Picture Association of America (MPAA), a trade association whose members include the six major Hollywood studios (Walt Disney Studios, Sony Pictures, Paramount Pictures, 20th Century Fox, Universal Studios and Warner Bros.), the output of feature films released in the U.S. has increased significantly from 385 in 1990 to 606 in 2008. It should be noted that this number pertains to films that achieved theatrical release and excludes those that were produced and not distributed in movie theaters. Therefore, the number of films shown in Figure 2 excludes hundreds of lower budget films shot in places like Pennsylvania that are never screened in commercial theaters. On the other hand, the number of new films being released by major Hollywood studios has stayed relatively flat since 1990, increasing a mere 2.5 percent. In 2008, there was actually a 27 percent decline in the number of studio films released (162 down from 188 in 2007).

Figure 2 – Feature Films Released in the U.S.



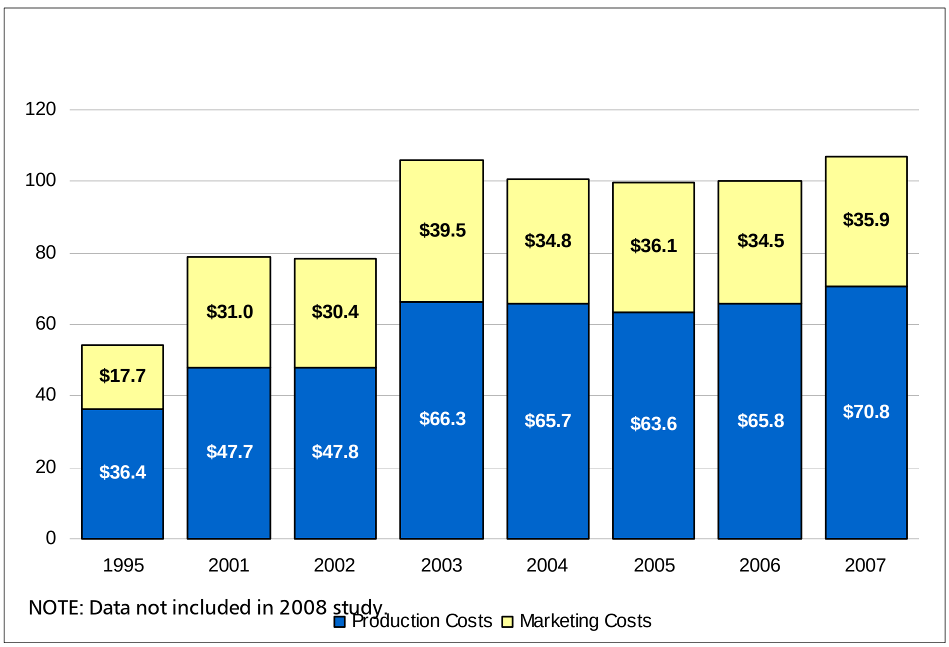
Source: MPAA

Studio Film Production

Until the recent economic crisis, Hollywood was flush with financing from financial institutions, private equity firms and hedge funds. This led to an increased number of films being made, which in turn led to an oversupply. As a consequence, many films that were intended for theatrical release went straight to video or were released on DVD. Most major studios have subsequently announced plans to scale back the number of feature films they will produce this year.

Another factor in the pullback is the rise in marketing and production costs. The following chart shows that marketing costs per studio film, which includes total print and advertising costs, have increased from $17.7 million in 1995 to $35.9 million in 2007, the latest year for which data is available. Over the same period, the average production cost increased from $36.4 to $70.8 million per film. This means that the combined cost to produce and market a studio film exceeds $100 million.

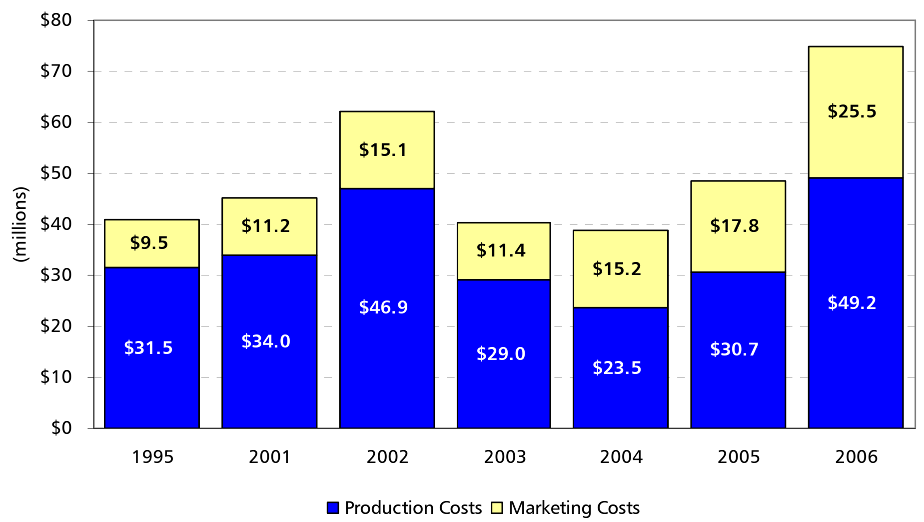
Figure 3 – Studio Marketing and Production Costs, 1995-2007



Independent Feature Film Production

Comparing growth in the number of studio versus other feature films between 1990 and 2008, growth has been in "other features" – which in this case is both mini-majors (which includes studio "classics' as well as specialty divisions such as Fox Searchlight, Miramax and New Line) and independent films that achieve a theatrical release. Recall from Figure 2, that over this period, the number of studio films increased by only 2.5 percent, compared to 95.6 percent for other features. The following chart shows a sharp increase in marketing and production costs for mini-majors and independent films that were released theatrically between 1995 and 2006, the most recent year for which data is available. Over this period, marketing costs increased from $9.5 to $25.5 million, and production costs from $31.5 to $49.2 million. This makes the average non-studio film in theatrical release approximately $75 million to produce and market.

Figure 4 – MPAA Affiliate Marketing and Production Costs per Film, 2001-2007

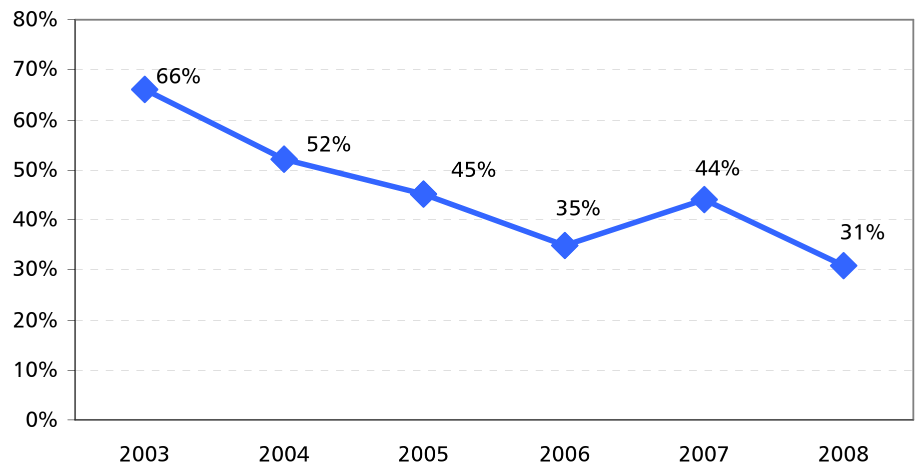


Source: Motion Picture Association of America

In 2001, marketing accounted for 23 percent of a mini-major film's budget (compared to 39 percent for a studio feature). In 2007, that figure reached 34 percent, which is comparable for that of a studio-produced feature. Thus, non-studio films now appear to have a similar percentage share devoted to marketing, as do films produced by the major studios. This is likely due to the increasingly competitive nature of the industry, especially with respect to securing theatrical distribution.

The broader implications of rising production and marketing costs mean that studios and producers alike are constantly looking for ways to cut production costs. This, in turn, partly contributed to the increasingly aggressive efforts by U.S. states to develop film incentives, particularly within the past two years. Also, the devalued dollar has made former production centers such as Canada and the United Kingdom less attractive to feature film producers from an economic standpoint. As a consequence, as will be discussed in the following section, many U.S. states are aggressively incentivizing film production. An MPAA member survey that was recently undertaken by the California Film Commission shows that the percentage of feature films that were shot partially or entirely in California has declined from an estimated 66 percent in 2003 to 31 percent last year.

Figure 5 – Studio Features Shot Partially or Entirely in California, 2003-2008



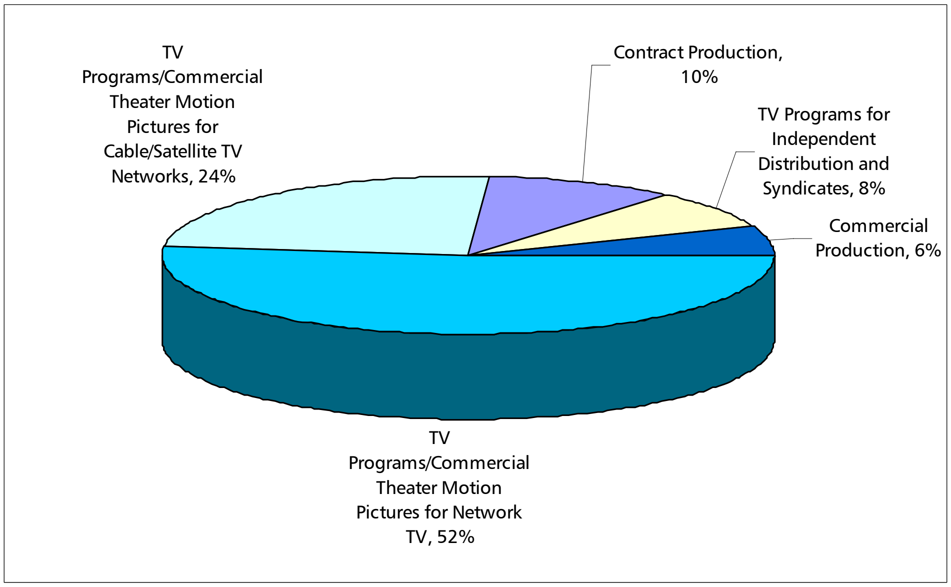
Source: California Film Commission (based on a confidential survey of MPAA members)

Trends in the Television Production Industry

Although national industry wide data on the number of annual television and commercial productions is not readily available, ERA used multiple sources to summarize trends in this sector. The TV production and distribution industry in the U.S. includes approximately 500 companies with combined annual revenue of $13 billion. Major companies include NBC Universal, CBS Paramount, Disney-ABC, Fox Television Studios, Warner Bros. Television Group and Sony Pictures Television. As a result, the television industry is highly concentrated, with the 50 largest companies accounting for 80 percent of the industry revenue. Most firms, however, are small, privately held production companies.

The television production industry comprises network, cable and satellite TV. It also includes the production of commercials and infomercials, news, reality TV series, miniseries, telemovies (MOWs), documentaries and sports productions. Network television production accounts for more than one-half of industry revenue (52 percent), followed by cable/satellite TV (24 percent) as shown below.

Figure 6 – Television Production Industry Revenue by TV Segment, 2007



Source: IBISWorld Industry Report (July 2008)

Similar to feature film production, all television companies are scaling back the number of their short-term production activities, and in many instances budgets, amid a deepening recession. Networks are particularly vulnerable now because their audiences are shrinking and their advertising revenues are falling, but production costs for dramas and comedies are continuing to climb. The current economic climate is simply putting more pressure on networks to produce shows more efficiently. Technological advances such as TiVo have impacted advertising revenues as has the overall decline in ad revenue in the recent economic climate. As a result, networks have had to spend more to promote their new shows in alternative advertising mediums such as the Internet, video games and iPods. The same is true for feature film advertising among major studios.

Aside from the recent writer's strike last year, several major trends have influenced the volume and patterns of television production in recent years, namely: (1) the demise of the movie-of-the-week (MOW) genre, and (2) the rise of specialty cable television and (3) the proliferation of reality television.

The Decline of the MOW Genre

Fewer television movies of the week (MOWs) are being produced throughout North America. Many U.S. networks have cut back their TV movie orders, and some networks like Showtime have revised their programming strategies to funnel more resources into TV series. In recent years, the MOW has been challenged by the emergence and popularity of reality television. These types of productions are relatively low budget, unscripted programs that are frequently shot in either Los Angeles or an exotic location. The reason for the decline of interest in MOWs is speculative. One such explanation is involves changing viewer attitudes, in addition to habits toward formats (i.e. attention span). At this point it is difficult to determine whether this genre is dead or in a period of dormancy.

The Rise of Specialty Cable

The rise of specialty cable has increased the demand for television product. According to the National Cable & Telecommunications Association (NCTA), there are just under 400 cable networks throughout the U.S. Some of these networks produce their own product, but the majority of them purchase some or most of their shows from outside producers. Since cable programming services can no longer just showcase movies that have already been on home video and in pay-per-view, cable television channels are now spending heavily on original programming in their efforts to attract audiences on the increasingly crowded cable systems.

Though television budgets are being cut, continuing strong demand for product is likely to occur from cable/satellite networks as the number of subscribers and channels continue to increase. The following table shows that the number of satellite households has increased by 363 percent between 1997 and 2007. This is likely to have a positive impact on the total volume of television product being produced in the U.S. outside of the major television production centers such as Los Angeles and New York.

Table 3 – Growth in U.S. Cable and Satellite Households, 1997-2007

Year	TV	Cable	Satellite
1997	98.0	66.0	6.4
2003	108.4	73.7	19.4
2004	109.6	73.9	22.2
2005	110.2	73.2	22.3
2006	111.4	71.4	27.4
2007	112.8	69.3	29.6
% Change	15%	5%	363%

Source: Motion Picture Association of America

Reality Television

In 2000, the success of the reality series, *Survivor*, and subsequent contest-style reality series directly influenced the current trend toward reality programming. The appeal of reality television is that the shows are relatively inexpensive compared to regular dramas. Reality TV shows can be produced for considerably less, ranging from an estimated $400,000 to $1 million per one-hour episode since such shows have no regular cast to pay and often have a minimal writing staff. In addition, they can sometimes save on other production costs by using preexisting homes or other means to avoid expensive set construction and labor costs. The downside is that reality programs have no real syndication potential.

Reality television has also impacted secondary production centers throughout North America, especially "traveling shows" that shoot various episodes outside of the major production centers on location. Many of these shows bring their own crew base, but some will hire local crew as well. Reality television shows that are shot on soundstages, however, are still largely filmed in Los Angeles. According to Film L.A., an estimated 50 to 60 percent of total television production filmed in Los Angeles last year consisted of reality television.

Trends in the Commercial Production Industry

In comparison to film and television productions, a far greater number of commercial productions are produced each year. Actual or estimated numbers on the number of commercial productions made by U.S. companies/producers are not available. But to demonstrate the scale of commercial production in the U.S. compared to film and television production, the MPAA reported a total of 520 total feature films produced in 2004 (refer back to Figure 2). That same year, the American Association of Advertising Agencies (AAAA) reported the findings of nearly 1,282 national commercials (excluding local and regional ones) among only twenty agencies and branch offices that participated in their survey. This figure excludes thousands of regional and local commercials as well, in addition to national commercials produced by agencies that did not participate. In other words, the number of total commercial productions made by U.S. companies at both the national, regional and local levels is likely much higher.

Types of Commercial Productions

At this time, broadcast television remains the dominant medium for advertising, constituting an estimated $9 billion annual market. The average cost of a 30-second TV commercial production is approximately $300,000. This represents a 12 percent decline from the average cost in 2005. The advertising landscape and commercial production, however, are changing rapidly, with traditional 30-second television spots and print campaigns being replaced by other forms of advertising. According to the Association of Independent Commercial Producers (AICP), a group of commercial production companies whose members account for approximately 85 percent of all domestic commercials aired nationally, approximately 67 percent of members surveyed in 2006 produced "non-traditional advertising" outside of traditional television commercials, with the most common format being Internet or broadband at 86 percent (see Table 4).

Table 4 – Non-Traditional Advertising Projects, 2006

Advertising	
Internet/broadband virals	86%
Original content (branded entertainment)	42%
Other (banner ads, music video, print ads, industrials, etc.)	18%
Mobile contact (cell phones, Ipods)	17%
Podcasts	8%
In-game advertising (video games)	4%

Note: Multiple responses were allowed and therefore totals exceed 100%.
Source: Association of Independent Commercial Producers (AICP)

Locations for Commercial Productions

Among those AICP members surveyed, Southern California is the most popular location for commercial shoots, representing 42 percent of all shooting days in 2006, followed by foreign locations, other U.S. locations and New York.

Table 5 – Percent of U.S. Shooting Days by Location

Area	% of Total Shooting Days
Southern California	42%
New York	13%
Florida	2%
Other Southeast	3%
Southwest	3%
Illinois	3%
Louisiana	0%
Other U.S.	15%
Foreign	19%

Source: Association of Independent Commercial Producers (AICP)

Other Production Trends

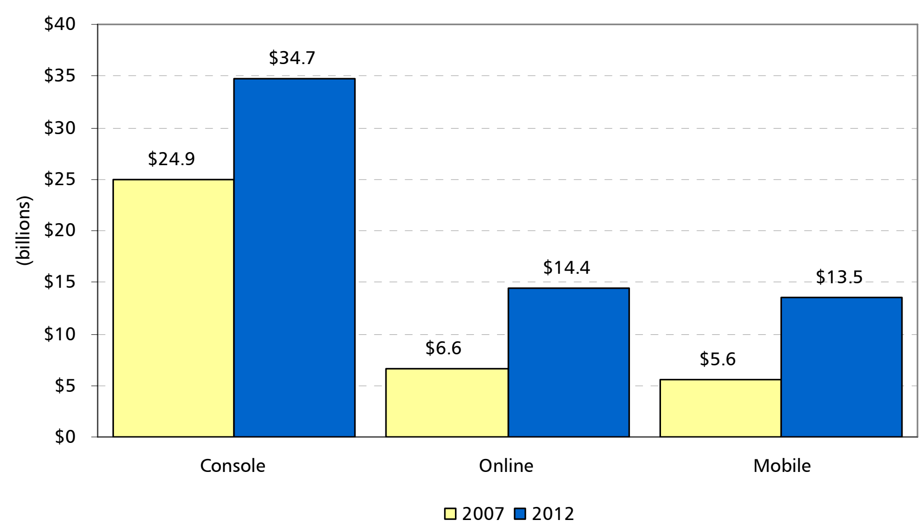
Video Games

The video game industry has experienced sustained growth for over two decades now and rivals the motion picture industry as the most profitable entertainment industry in the world. Since a crossover of skill sets/talent often exists between technicians working in the video game industry and other aspects of the motion picture industry, many jurisdictions have recognized the importance of this industry and now include financial incentives for this sector, along those for film, television and commercial production incentives. As an example, Connecticut's 30 percent Digital Media & Motion Picture Tax Credit includes “interactive games” and video games. Louisiana and Georgia offer similar incentives.

According to a recent report from the Entertainment Software Association, California is currently the largest employer of computer and video game personnel in the nation, accounting for approximately 40 percent of total industry employment nationwide. However, secondary cities with a substantial mass of creative film talent like Austin, Texas; Seattle, Washington and Portland, Oregon, also have substantial video game industries as well.

Aside from the crossover of technical talent, another reason the video game industry is increasingly important to motion picture production industry is due to its rapid growth compared to other forms of entertainment. Figure 7 shows a forecast of video game sectors between 2007 and 2012. As previously shown in Table 2, media spending on video games is projected to increase substantially. Other key factors in the growth of the video game industry include: an increase in the number of mobile phones capable of displaying games and an increase in the number of broadband households in the U.S.

Figure 7 – Growth in the Video Game Sector, 2007-2012



Source: PricewaterhouseCoopers

Mobile Content

Though this trend is still in its infancy in North America, television makers may no longer be in the business of making traditional miniseries, telefilms and hit reality television shows. Instead, they are beginning to program content for the mobile phone user. Mobile content offers many potential rewards, including creating synergy among platforms, reinforcing loyalty to TV programs and extending brands. Of course legal issues need to be resolved with this new technology, including who will be responsible for paying guild residuals.

Hollywood studios and other global companies are setting up new divisions to cater to this programming outlet. The target user for mobile delivery is typically the 12- to 24-year-old. In this regard, companies are moving into the original content arena, which differs from the high-budget, studio-backed feature films and traditional hour-long episodic TV shows for international consumption. Some studios, however, are even making feature films available for mobile consumption. As an example, Sony Pictures Digital has made *Ghostbusters* and *Spider-Man 2* available for mobile consumption.

Since mobile content is so new, however, there is no absolute formula for success as yet. Therefore, one cannot draw conclusions as to it impact on the film and television industry other than to speculate that it can only help it since: (a) production costs are likely to be lower for productions that are produced specifically as mobile content, and (b) mobile content is more likely to adapt genres such as shorts and videos.

Changing Technology and Distribution Models

The history of motion picture and television production is highly correlated with technological change. Much of the proliferation of film production is a direct result of technological advances such as digital filmmaking and mobile broadcasting. Similar to other industries, advances in technology have impacted the nature of film production by allowing filmmakers to take their productions to foreign locations. Technological advances are also driving the globalization of production, making it easier for filmmakers to take their projects to distant locales. Final Cut Pro, a computer software editing package from Apple Computer Inc., is one of several technological innovations that are leading a democratization of the movie and television industry. In this respect, it is similar to the desktop publishing revolution of more than a decade.

Impact on Film Production

Technology has provided filmmakers with more choices and flexibility regarding the location for principal photography during a film shoot. This new technology also is having an effect on location production. Location shooting is now more feasible since cameras, sound and lighting equipment is much lighter. There are two countervailing forces at work that need to be resolved before any clear trend can be delineated.

First, new technology will allow for the creation of so-called “virtual locations.” The improved ability for digital masking and special effects may lead to an overall reduction in location filming as filmmakers are more realistically able to portray a scene without having to be physically present. This is frequently an imperative in low cost productions where reality images are less important.

However, as a countervailing tendency, this new technology is reducing the overall cost of production and is having the net effect of luring more entrants into the film industry. Many observers see an opening of the industry in coming years spurred by technological advances. This may support the rise of regional industries, which would have increasing need for on-location production.

New Distribution Models

The studio model of celluloid is fast disappearing. Under this traditional business model, particular physical infrastructure was necessary to support and develop an industry. Today, however, the entertainment industry has moved into the digital age. As high-definition and on-demand technologies propagate, that mix will continue to shift away from cinemas and even DVDs. Now the situation is one of extending programming to multiple platforms.

The entertainment industry is also experiencing a major shift in the way that entertainment is distributed. New distribution channels such as broadband, Internet access and mobile (wireless) technology will drive significant growth in the industry. The Internet is still viewed as the most promising medium of the future. To date, there is no common commercial model for optimizing the distribution of content over the Internet. Internet distribution is often sponsored by advertising, subscription fees, pay-as-you-go product sales, or some combination of the three.

Implications for Pennsylvania

As production and marketing costs continue to increase for both film and television production, studios and producers are seeking ways to lower the overall cost of production. This means shooting in areas where the cost of “inputs” such as labor, services, and infrastructure are lower. The use of tax credits in most states has made the availability of such tax credits part of the cost of doing business to be considered for production work. The number of feature films shot in Los Angeles has declined significantly in recent years as film incentives offered by other states have successfully lured recent studio productions.

While similar data does not exist for television, the proliferation of cable and satellite television programs is driving the demand for new content and programming. Pennsylvania companies like Philadelphia-based Center City Film & Video are producing nationally-televised series such as the *Sunny Side Up Show*, on the broadcast television network, PBS KIDS Sprout. Others such as *Cold*

Case (Philadelphia) and *The Office* (Scranton) are mostly filmed in Los Angeles, though set in Pennsylvania locations where exterior/location filming occurs.

While Southern California remains the favored location for U.S. producers who shoot national ads, U.S. cities like Philadelphia and Pittsburgh typically have some number of commercial production companies that produce spots for regional and locally-based companies.

At the same time, new media segments such as video games and the Internet offer the greatest growth opportunities for Pennsylvania-based production companies that can access these markets. The modes of production for new media are somewhat similar with projects being either shot on location, a stage, or a combination of both, but the modes of consumption and distribution vary. Some states have enacted credit programs specifically targeted to these industry segments as well, though the evolution of such credits is currently at an early stage.

III. Pennsylvania Motion Picture Industry Overview

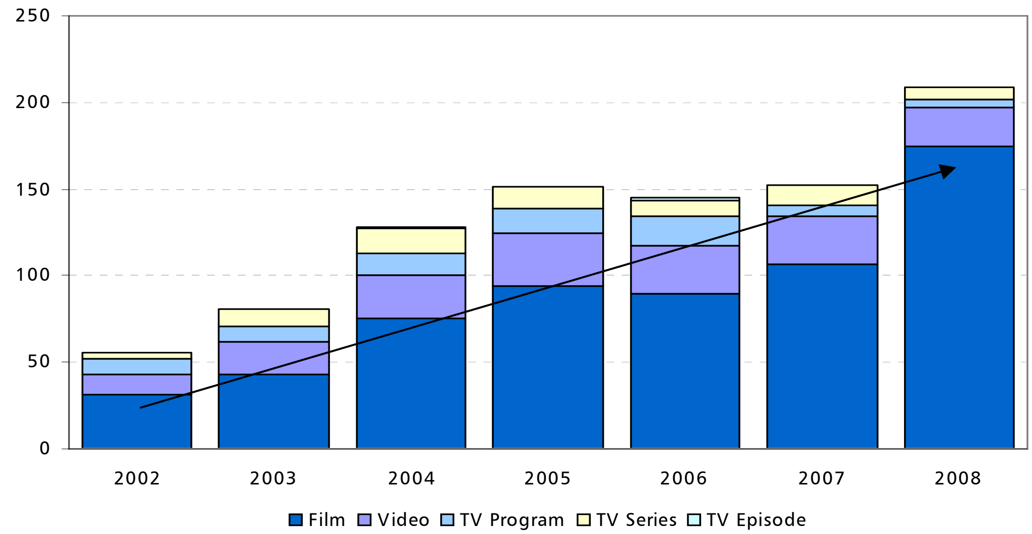
The objective of this section is to develop a quantitative baseline or benchmark to describe the size and the extent of the film industry throughout the Commonwealth of Pennsylvania. By doing so, changes over time within the motion picture production industry can be measured, emphasizing those changes that have occurred since the implementation of the film incentive programs. However, the motion picture production industry is complex and therefore difficult to quantify. The combination of contingent employment and single-purpose corporations, combined with the high level of mobility and transient labor in the motion picture production industry requires a more creative approach to traditional methods of sector analysis. Coverage issues arise when working with only one data source, which is why ERA utilized multiple sets of data for this analysis.

ERA gathered filming location data from the Internet Movie Database (www.imdb.com), an online database with information on more than 1 million film and television productions. ERA also used data from the Quarterly Census of Employment and Wages (QCEW) collected by the Bureau of Labor Statistics, in addition to data from Dun & Bradstreet, an independent credit rating organization which gathers information on firms that are applying for credit or billing with invoices and purchase orders. Whenever possible, ERA gathered data back to 2002 through 2007.

Pennsylvania Productions

The Internet Movie Database (IMDb) aggregates data on feature films, television (TV) episodes, made for TV movies, TV series, direct to video movies and live action video games. IMDb provides information on many aspects of production including the cast, crew, production companies and locations. According to IMDb, there have been 922 productions that were released during 2002 and 2008 that took place, all or in part, in Pennsylvania. As shown in the chart below, films dominate the industry with 615 productions over this time period. This is a broad category which includes feature films, documentaries and educational films. Also visible in this chart is the significant growth in the number of productions beginning in 2004 with another jump in 2008. Most of this growth can be attributed to films being produced throughout the Commonwealth. In 2002, there were 31 films released that took place in Pennsylvania. In 2008, there were 175 films released with scenes filmed in Pennsylvania including the feature films *Baby Mama*, *Chasing 3000* and *Marley and Me*. This represents an average annual growth rate of 33 percent from 2002 through 2008.

Figure 8 – Pennsylvania Productions, 2002-2008



Source: Internet Movie Database

The major legislative changes in Pennsylvania correspond with noticeable increases in productions. It should be noted that the majority of the productions listed on IMDb have not applied for tax credits through Pennsylvania's incentive programs, though the more significant ones in terms of dollar value and employment levels generally have applied for the Pennsylvania FTC. As well, this is the broadest measure of production activity and includes productions which may not qualify for credits because they are below a certain budget level, or did not produce 60 percent or more in Pennsylvania. Productions which shot only single scenes or locations are included in this broad measure of activity levels.

Employment Trends

There are several ways to measure the size of an industry, but perhaps the simplest is through employment. However, due to the elastic nature of employment in the entertainment industries, getting a precise measure of how many people are working in each profiled segment during the year is difficult. Due to the high level of contingent and transient employment in the industry, ERA used data from the Quarterly Census of Employment and Wages (QCEW) to best understand employment trends in Pennsylvania's motion picture industry. This data, formerly known as ES202 data, is used by the Bureau of Labor Statistics and Bureau of Economic Analysis to provide accurate and comprehensive reporting for virtually every segment of the economy. These data are collected in a uniform manner as required by federal law and reported monthly. State and local governments use this data set to compute unemployment rates, project income tax revenues, study employment history and measure labor markets.

The QCEW data includes employment for the entire industry for every worker who receives a paycheck during the pay period that includes the 12th of the month, which generates a W-2 form and is therefore covered by unemployment insurance. Typically, between 85 and 95 percent of all employees are covered by unemployment insurance in a given state. This includes part-time, temporary and contingent workers. However, individuals who are owners or proprietors of a business enterprise, who are paid through distribution of payments or through operation of an unincorporated business, will not be covered by QCEW. Information specific to employment in the film industry is not available.

The QCEW data includes the number of firms, monthly employment and total wages organized by North American Industry Classification System (NAICS). Data may be suppressed for a detailed industry group if there are less than three firms reporting information in that particular NAICS or if 80 percent of total employment comes from one or more unit.

ERA worked with the Pennsylvania Film Office and the Three Rivers Workforce Investment Board (TRWIB), which is currently conducting a workforce development study on the Commonwealth's motion picture industry, to determine a common, baseline definition of the industry to be used by both studies. For this purpose, the following NAICS classifications were identified as the key components of Pennsylvania's motion production industry:

- **NAICS 51211 Motion Picture and Video Production**
  This industry comprises establishments primarily engaged in producing, or producing and distributing motion pictures, videos, television programs or television commercials.
- **NAICS 51212 Motion Picture and Video Distribution**
  This industry comprises establishments primarily engaged in acquiring distribution rights and distributing film and video productions to motion picture theaters, television networks and stations and exhibitors.
- **NAICS 51219 Postproduction Services and Other Motion Picture and Video Industries**
  This industry comprises establishments primarily engaged in providing postproduction services and other services to the motion picture industry, including specialized motion picture or video postproduction services, such as editing, film/tape transfers, titling, subtitling, credits, closed

captioning and computer-produced graphics, animation and special effects, as well as developing and processing motion picture film.

- **NAICS 51512 Television Broadcasting**
  This industry comprises establishments primarily engaged in broadcasting images together with sound. These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public. These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studio, from an affiliated network, or from external sources.
- **NAICS 51521 Cable and Other Subscription Programming**
  This industry comprises establishments primarily engaged in operating studios and facilities for the broadcasting of programs on a subscription or fee basis. The broadcast programming is typically narrowcast in nature (e.g., limited format, such as news, sports, education or youth-oriented). These establishments produce programming in their own facilities or acquire programming from external sources. The programming material is usually delivered to a third party, such as cable systems or direct-to-home satellite systems, for transmission to viewers.
- **NAICS 7115 Independent Artists, Writers and Performers**
  This industry comprises independent (i.e., freelance) individuals primarily engaged in performing in artistic productions, in creating artistic and cultural works or productions, or in providing technical expertise necessary for these productions. This industry also includes athletes and other celebrities exclusively engaged in endorsing products and making speeches or public appearances for which they receive a fee.

The main focus of the TRWIB study, undertaken by Entertainment Economy Institute, is employment patterns in the industry. Therefore, a broad definition of the baseline industry was used and includes all components of motion picture and video industry plus television broadcasting and cable programming. Since the latter two segments are growing rapidly nationally and are becoming more and more involved in production of original programming, they have been included in this analysis. The table below shows how the Commonwealth's motion picture industry has grown over time. Although the number of jobs in the industry has fallen since 2003, they have remained relatively stable since 2005. Over the same time period, average annual wages have increased at an average annual rate of 4.6 percent per year. In 2007, there were nearly 9,800 people employed at 799 firms earning an average wage of approximately $62,700. For 2007 the average number of employees per establishment is estimated at just over 12.

Table 6 – Motion Picture Industry in Pennsylvania

	Firms	Jobs	Total Wages ($ millions)	Average Annual Pay
2002	741	10,215	$511.2	$50,050
2003	786	10,526	$544.0	$51,690
2004	783	9,504	$525.8	$55,320
2005	780	9,787	$554.4	$56,650
2006	794	9,754	$608.8	$62,410
2007	799	9,785	$613.4	$62,690
CAGR	1.5%	-0.9%	3.7%	4.6%

Source: The Center for Workforce Information & Analysis

The largest component of the industry is television broadcasting with nearly 4,000 people employed earning an average wage of $66,870. The highest paying sector is cable and other subscription programming, with an average annual wage of $73,540 in 2007.

Table 7 – Pennsylvania Motion Picture Industry, 2007

	Firms	Jobs	Total Wages ($ millions)	Average Annual Pay
Motion Picture and Video Production	269	2,162	$132.9	$61,480
Motion Picture and Video Distribution	8	19	$0.9	$46,130
Postproduction Svcs and Other Motion Picture and Video Industries	25	280	$15.5	$55,560
Television Broadcasting	75	3,999	$267.4	$66,870
Cable and Other Subscription Programming	40	2,034	$149.6	$73,540
Independent Artists, Writers and Performers	382	1,291	$47.0	$36,430
Total	799	9,785	$613.4	$62,690

Source: The Center for Workforce Information & Analysis

For purposes of this analysis, ERA has narrowed its definition of the motion picture industry to exclude television broadcasting (NAICS 51512) and cable programming (NAICS 51521) since much of this activity is not eligible for Film Tax Credits. While the overlap of the excluded segments is important for workforce development implications, it is less directly related to the tax credit impacts under consideration in this study. In the remainder of this section, ERA compares Pennsylvania's film industry to state and national trends as well as the industry in competitive states. According to the Pennsylvania Film Office, to attract productions, Pennsylvania competes most closely with the industry leaders California and New York, and other states in a position more similar to that of Pennsylvania such as Connecticut, Illinois, Louisiana, Massachusetts, Michigan and New Mexico.

The following table presents employment trends in the motion picture industry, as defined by ERA (NAICS 51211, 51212, 51219 and 7115) with data from the BLS. Recall that while part-time, temporary and contingent workers are included in the employment counts, individuals who are owners or proprietors of a business enterprise are not covered by QCEW data. Since 2002, the number of people working in the industry has grown at a cumulative annual growth rate of 3.3 percent through 2007. In 2007, there were 3,752 people employed in the industry at 684 firms for an average of over 5 per firm. The average annual wage was $52,340 in 2007 which compares to an overall state average of $42,945 for all workers throughout Pennsylvania. The industry in Pennsylvania is adding jobs at a faster rate than the national average. The national average wage is higher than that in Pennsylvania, but it includes the wages of studio executives and industry leaders which are concentrated outside of Pennsylvania, and this may skew the national data.

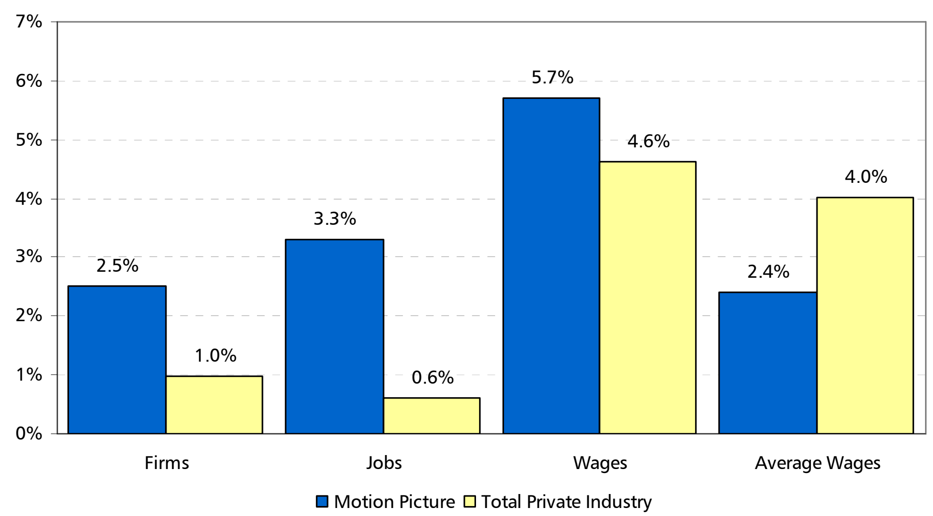
Table 8 – Pennsylvania's Motion Picture Industry as Defined by ERA

	Firms	Jobs	Total Wages ($ million)	Average Pay
U.S.				
2002	33,846	259,172	$18,963.4	$73,169
2003	34,375	250,882	$19,045.8	$75,915
2004	35,257	265,505	$21,233.1	$79,973
2005	36,374	262,300	$21,340.0	$81,357
2006	38,706	265,995	$22,417.8	$84,279
2007	39,405	270,685	$23,215.4	$85,765
CAGR	3.1%	0.9%	4.1%	3.2%
Pennsylvania				
2002	606	3,196	$148.8	$46,560
2003	648	3,420	$166.8	$48,770
2004	658	3,341	$175.1	$52,410
2005	661	3,607	$181.2	$50,230
2006	679	3,527	$182.3	$51,690
2007	684	3,752	$196.4	$52,340
CAGR	2.5%	3.3%	5.7%	2.4%

Source: Bureau of Labor Statistics

Overall Pennsylvania's motion picture industry, as defined here, is growing at a faster rate compared to the overall state economy as measured by the number of firms, jobs and total wages paid. As shown in the chart below, the number of jobs grew at an average annual rate of 3.3 percent from 2002 through 2007. This compares to a growth rate of 0.6 percent for total private industries in the Commonwealth. The number of firms and total wages paid also increased faster in the motion picture industry than the overall state economy. The exception appears to be average wages which grew at a somewhat lower pace than those of the overall private labor market, though this is most likely due to the fact that the film industry is starting from a higher level of average wages than most industries.

Figure 9 – Growth in Pennsylvania's Labor Markets, 2002-2007



Source: U.S. Bureau of Labor Statistics

The following table presents the average annual employment for the film industry by specific industry in Pennsylvania from 2002 to 2007 as well as the associated compound annual growth rate (CAGR). More than half the jobs are in the production sector which is experiencing healthy growth since 2002, increasing 4.1 percent annually.

Table 9 – Average Annual Employment in Pennsylvania's Motion Picture Industry

	Average Annual Employment						
	2002	2003	2004	2005	2006	2007	CAGR
Motion Picture and Video Production	1,766	1,773	1,741	2,026	1,957	2,162	4.1%
Motion Picture and Video Distribution	19	61	97	10	12	19	0.0%
Postproduction Services	447	574	430	369	274	280	-8.9%
Independent Artists, Writers & Performers	964	1,012	1,073	1,202	1,284	1,291	6.0%
Total	3,196	3,420	3,341	3,607	3,527	3,752	3.3%

Source: Bureau of Labor Statistics

The following table shows motion picture employment in states that actively compete with Pennsylvania for productions. As noted above, California and New York are established industry leaders which is reflected in the number of people working in the industry. California has the largest number of people employed in the industry with 143,590 jobs. The average wage is highest here also due in part to the concentration of studio executives in the state as well as a higher cost of living. New York also has a sizeable industry with nearly 40,000 people employed earning an average annual wage of almost $100,000.

Table 10 – Motion Picture Employment in Competitive States, 2007

	Firms	Jobs	Wages (millions)	Average Wage
California	14,256	143,590	$14,936.5	$104,020
New York	4,866	39,550	$3,926.1	$99,280
Connecticut	436	1,900	$132.8	$69,930
Illinois	1,328	5,560	$345.1	$62,120
Louisiana	260	3,060	$113.7	$37,210
Massachusetts	573	2,630	$134.8	$51,330
Michigan	556	2,580	$126.0	$48,850
New Mexico	147	2,320	$73.7	$31,780
Pennsylvania	684	3,752	$196.4	$52,340

Source: Bureau of Labor Statistics

Location Quotients

In addition to employment trends, ERA examined the strength of these industries relative to other states using location quotients. Location quotients compare the distribution of industry in a state relative to its overall employment distribution. It assumes that employment in each industry is distributed in the same representation as the overall state. For example, in 2007, 4.3 percent of the entire national workforce was employed in Pennsylvania. Therefore if employment in a particular industry is allocated in the same manner, then the location quotient for that industry in Pennsylvania would be 1. If there is an overrepresentation of an industry in Pennsylvania (more than 4.3% of total national employment in that industry during 2007), the associated location quotient would be greater than 1. Therefore, location quotients measure the relative concentration of different industries in specific localities relative to the national total. The meaning of location quotient values follows:

- LQ > 1.0 means than an industry is more concentrated in the state than in the nation.
- LQ = 1.0 means that an industry is equally concentrated in the state as in the nation.
- LQ < 1.0 means an industry is less concentrated in the state than in the nation.

A concentrated (high) location quotient means that a given industry is represented more in the home state than one would expect, given its total level of employment.

The following table provides the share of industry employment and associated location quotients by specific NAICS for states the Pennsylvania Film Office identified as its closest competitors. While the share of employment shows where the industry is concentrated around the country, the location quotient can demonstrate the strength of the industry relative to a state's overall economy. Pennsylvania ranks in the top ten share of employment in each category of the motion picture industry, as defined by ERA, with the exception of distribution. California and New York dominate each category, which is not surprising due to their well established and concentrated film industries.

Table 11 – Employment and Location Quotients in Film Industry for Select States, 2007

State	% emp	LQ		% emp	LQ
Motion picture and video production (NAICS 51211)			**Motion picture and video distribution (NAICS 51212)**		
California	58.6%	5.05	California	46.2%	3.99
New York	16.1%	2.57	New York	19.9%	3.18
Connecticut	0.7%	0.55	Connecticut	0.1%	0.10
Illinois	1.3%	0.30	Illinois	6.4%	1.45
Louisiana	1.4%	1.05	Louisiana	0.1%	0.09
Massachusetts	0.7%	0.27	Massachusetts	1.8%	0.74
Michigan	0.8%	0.24	Michigan	1.4%	0.44
New Mexico	1.2%	2.11	New Mexico	0.4%	0.70
Pennsylvania	1.1%	0.26	Pennsylvania	0.4%	0.09
Postproduction and other related industries (NAICS 51219)			**Independent artists, writers and performers (NAICS 7115)**		
California	57.6%	4.97	California	35.0%	3.02
New York	15.5%	2.49	New York	9.3%	1.49
Connecticut	0.2%	0.17	Connecticut	1.1%	0.83
Illinois	3.8%	0.85	Illinois	4.0%	0.90
Louisiana	0.9%	0.67	Louisiana	0.3%	0.22
Massachusetts	4.2%	1.70	Massachusetts	0.9%	0.36
Michigan	1.2%	0.39	Michigan	1.7%	0.54
New Mexico	0.1%	0.10	New Mexico	0.0%	-
Pennsylvania	1.5%	0.34	Pennsylvania	2.7%	0.61

Source: Bureau of Labor Statistics

With more than half of all film industry employment located in California, it is no surprise that its location quotient is also the highest. Many states have a location quotient less than one in the various industries because certain states, like California and New York, dominate that particular industry.

Location quotients for the entire motion picture industry, as defined by ERA, were then measured by adding the employment in the four sectors together for each of the selected states for both 2002 and 2007. Much of the state legislation offering incentives to motion picture production companies was enacted after 2002. Therefore it is interesting to note how location quotients may have changed since then. As shown below, Pennsylvania's location quotient for the film industry was 0.33 in 2007, up slightly from 0.28 in 2002. Over the same time period, the location quotient in New Mexico experience the largest shift, up to 1.56 in 2007 from 0.52 in 2002. This can be attributed to an aggressive film tax credit program.

Table 12 – Film Industry Location Quotients for Select States, 2002 and 2007

State	2002	2007
California	4.58	4.65
New York	2.53	2.38
Connecticut	0.31	0.57
Illinois	0.47	0.47
Louisiana	0.25	0.86
Massachusetts	0.35	0.40
Michigan	0.30	0.31
New Mexico	0.52	1.56
Pennsylvania	0.28	0.33

Source: Bureau of Labor Statistics

Firm-Level Data

ERA obtained data from Dun & Bradstreet, a private credit rating service, via the Three Rivers Workforce Investment Board. Dun & Bradstreet records information about business enterprises that have either applied for credit, or undertaken a number of specified financial transactions that have generated an evaluation of the firm's credit worthiness. This data, therefore, represents a subset of firms in the industry. The Dun & Bradstreet data are updated annually and are available at the four-digit NAICS code level. This data source includes business enterprises that are owned and operated by sole proprietors who are excluded from QCEW data.

In 2008, data was collected for 82 firms throughout Pennsylvania. Total sales for motion picture production, distribution and post production in Pennsylvania was $544.3 million, the majority of which was generated in production companies, for an average of just over $6.6 million per firm. The other categories had minimal sales and employment. However, average firm size and average sales are greatest among distribution companies.

Table 13 – Firm Level Data for Pennsylvania

Category (NAICS)	Firms	Jobs	Sales (millions)
Motion Picture and Video Production (NAICS 51211)	71	1,475	$455.4
Motion Picture and Video Distribution (NAICS 51212)	5	116	$80.3
Postproduction Services and Other Motion Picture and Video Industries (NAICS 51219)	6	63	$8.6
Total	82	1,654	$544.3

Source: Dun and Bradstreet

As shown below, the motion picture industry firms contacted by Dun And Bradstreet are concentrated in two regions – Philadelphia and the Countryside and Pittsburgh and its Countryside. These two region, which cover a total of 15 counties, are home to three-quarters of the firms in the Dun and Bradstreet database and represent 87 percent of the associated sales.

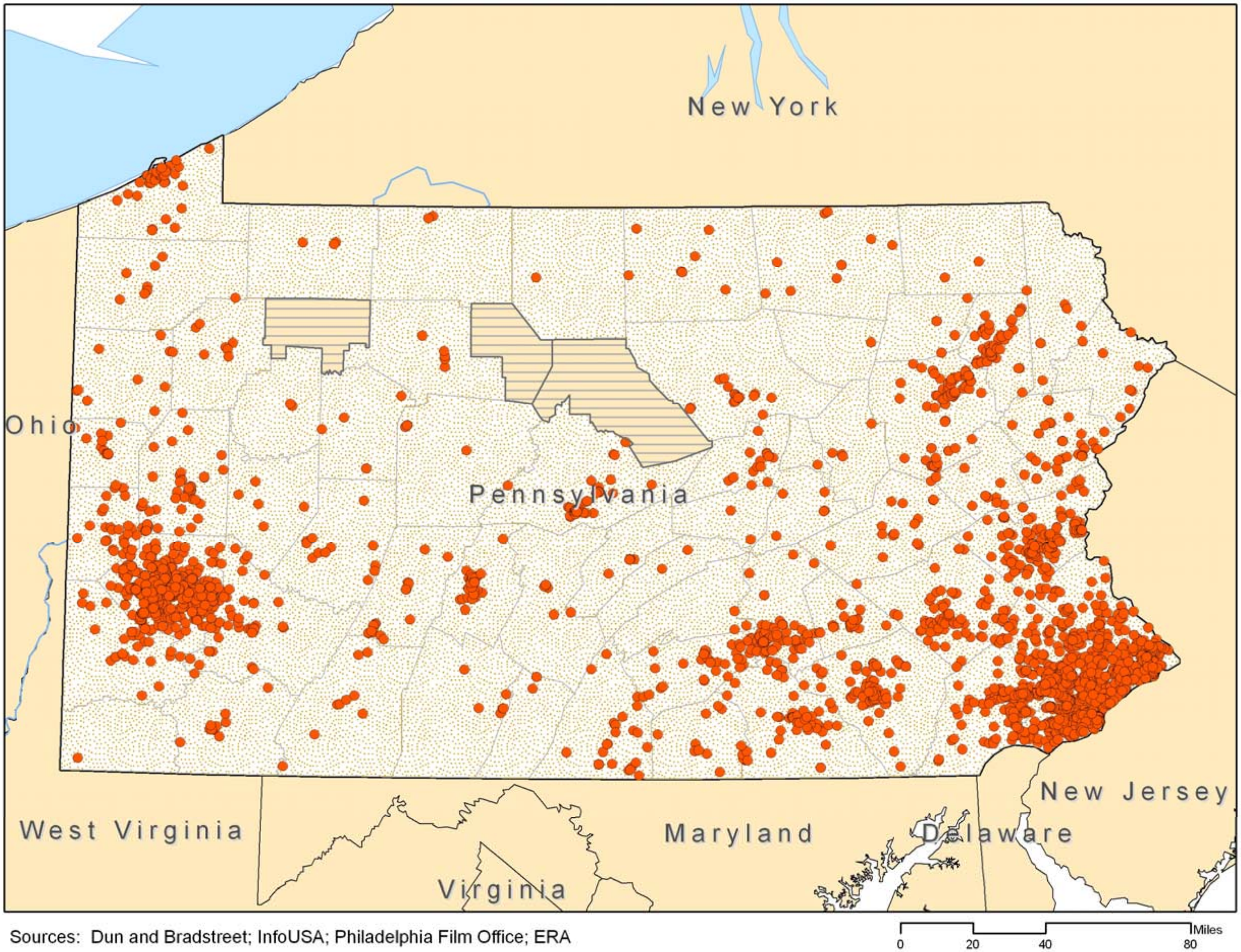
Table 14 – Firm Level Data by Region

Region	Firms	Jobs	Sales (millions)
Dutch County Roads	4	150	$27.2
Laurel Highlands	1	10	$1.1
Lehigh Valley	5	78	$10.8
Pennsylvania's Great Lakes Region	1	2	$1.5
Philadelphia and the Countryside	49	904	$176.4
Pittsburgh and its Countryside	12	307	$297.5
The Alleghenies and Her Valleys	4	130	$21.7
Upstate Pennsylvania	5	53	$8.1
Valleys of the Susquehanna	1	20	n/a
Total	82	1,654	$544.3

n/a = not available
Source: Dun and Bradstreet

To get a more complete picture of firms tied to the motion picture industry in Pennsylvania, ERA augmented this data with the vendor lists from the Pennsylvania Film Office as well as data from InfoUSA. A map showing the location of businesses tied to the motion picture industry in Pennsylvania follows. As shown on the following map, all but three counties have at least one firm tied to the industry. It should be noted that workers may be more widely distributed throughout the Commonwealth than the location of businesses.

Figure 10 – Location of Film Industry Companies in Pennsylvania



Sources: Dun and Bradstreet; InfoUSA; Philadelphia Film Office; ERA

IV. Economic and Fiscal Impact Analysis

Although employment is a valid measure of industry size, it does not capture the full economic impact of an industry on the economy as a whole. In this section, ERA measures the economic impact of productions that received state tax credits through the Film Tax Credit Program on the Commonwealth of Pennsylvania.

Economic impact analysis measures the economic activity occurring within a defined geographic region as a result of an initial change in the economy. To perform this analysis, ERA uses IMPLAN, a software program produced by the Minnesota Implan Group and first developed by the USDA Forestry Service to perform impact analysis for planning. Today, more than 1,500 clients across the country, including government agencies, non-profit agencies, industry associations and private companies use IMPLAN to prepare location-specific economic impact analysis. IMPLAN data files are compiled from a wide variety of sources including the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor and the U.S. Census Bureau. The IMPLAN data and accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis (1980) and the rectangular format recommended by the United Nations. IMPLAN data is available for individual state, county and custom zip code level allowing for a high degree of flexibility among users. Data specific to Pennsylvania was used in this analysis. The database includes state-level data for 509 industrial sectors and the ways in which those sectors interact with each other, households and government agencies.

Generally speaking there are two core models for evaluating economic impact – IMPLAN which is generally ERA’s preferred method, and REMI multipliers. Both are generally accepted as reasonable approximations of a region’s economic capacity to handle certain economic activities and based on the current relationships of economic input-output variables. The core differences in the two models have to do with estimating changes in these underlying variables over time.

When forecasting in IMPLAN the current economic relationships of the model are held constant. When forecasting in REMI models, however, it is possible to change future economic relationships to model substantial changes in an economy or industry. For example, if one were modeling the impact of a new steel plant which would create 2,000 new jobs in a town of 500 current residents, one may choose to use a REMI model as it would be flexible and allow for dramatic changes in economic variables moving forward. This would include the many economic adjustments of new families moving into the town. This is part of the reason why such a model can cost in the area of $15,000 whereas IMPLAN costs closer to $500.

In ERA's experience IMPLAN is a suitable economic model for large economic or geographic areas such as a developed country or state, where incremental demand is unlikely to significantly alter inter-industry relationships. In our experience elsewhere, at the statewide level when IMPLAN and REMI outputs have been estimated for the film industry, the results have been within 5 percent, with IMPLAN producing a slightly more conservative outcome. ERA is aware of the use of IMPLAN in evaluating several state film industries including Louisiana, Connecticut, New York, New Mexico, and Virginia. ERA is aware that Florida and Michigan have used REMI models to estimate such impacts.

Overview

The U.S. economy functions as an interlocking system where changes in supply and demand for one industry affect supply and demand in others. IMPLAN applies the principle of input-output models to describe and measure these changes in an economy by quantifying the relationships among industries and institutions in a given study area. The idea behind input-output modeling is that the inter-industry relationships within a region will largely determine how that economy will respond to change. These relationships include the following:

- **Industrial spending patterns:** In what ways, and in what proportions, does each industry spend money? For example, film production spends money in wholesale trade, retail trade, food and beverage services, truck transportation, and a host of other industries. The input-output models measure the proportions of spending in each industry via a series of coefficients. These coefficients (called a production function when grouped together) are the basis of generating economic multipliers to determine the indirect and induced impacts in other industries.
- **Wage and employment distribution:** The models measure the proportion of income each industry spends on wages and the distribution of these wages throughout household income brackets. This information is used to quantify the number of jobs and the level of wages that would be paid to employees as a result of an economic activity.
- **Inter-institutional trade flows:** Money changes hands between several societal institutions – private industry, government entities and households of varying income levels. These trade flows are modeled in IMPLAN to determine the fiscal impacts (flows from industries and households to government entities) and induced impacts (from households to private industries).

All changes are measured in terms of a "change in final demand." For example, if any given business requires 10 hotel room-nights at $100 each, the hotel and motel industry would experience a $1,000 positive change in final demand. Given this, the IMPLAN model would evaluate the industrial spending pattern for the hotel and motel industry, and apply the $1,000 spending to all supporting industries in the proper proportion. A portion of the final demand could be spent in other industries; a portion could be paid as wages; and a portion could be distributed as profits to the owners (the latter two could flow to households and governments based on inter-institutional transfers).

IMPLAN uses social accounting matrices, or a set of social accounts, to describe economic relationships and generate multipliers. This social accounting model allows researchers to measure the changes in income, employment and tax revenues in detail. However, it is important to note that IMPLAN, like all economic modeling systems, measures the institutional relationships that currently exist, i.e., the relationships between producers and suppliers is fixed, based on past demand. However, large economic projects, such as the addition of a several multi-million dollar films in a short period of time, or in a small economic region, could precipitate structural changes in the economic relationships in the local and state economies. Therefore, as industries adapt and mature to accommodate very large projects, the impacts could be greater still.

Direct and Indirect Impacts

Economic impacts can be described as the sum of economic activity within a defined geographic region resulting from an initial change in the economy. This initial change, also referred to as the direct impact, spurs a series of subsequent indirect and induced activities resulting from interconnected economic relationships. The direct impact is the known or predicted change in the local economy that is to be studied. For purposes of this analysis, the direct impacts are the expenditures made by filmmakers who received state tax credits to support their core activities. Only spending made within the boundaries of Pennsylvania are considered “direct” impacts. This figure was determined based on audited information from the Pennsylvania Film Office. Indirect impacts are the changes in inter-industry spending (business to business transactions) necessary to support the direct impacts. In addition, the income provided to employees could be recycled back into the economy in the form of additional consumer spending. These are induced impacts.

The indirect and induced impacts are quantified by a series of multipliers that describe the extent to which the change in demand generates additional benefits through interdependent industry sectors. Increased demand for a product affects the producer of the product, the producer’s employees, the producer’s suppliers, the supplier’s employees, and so on, ultimately generating a total effect in the economy that is greater than the initial change in demand. The multipliers essentially measure the re-spending of dollars in an economy. Since they are a measure of interdependency among sectors in a given geographic region, they will vary considerably across both regions and sectors. In input-output analysis, there are many different multipliers but the most commonly cited is the ratio of the total impact (direct + indirect + induced impacts) to the direct impact. High multipliers indicate that local firms are well integrated and that goods and services are closely linked to other complementary good and services within the study area. It follows that a dollar spent in an industry with a high multiplier has a greater effect on the local economy than one spent in an industry with a low multiplier.

The multiplier effects can change over time as the industry composition of the state changes. A large study area (a state, for example) could have high multipliers because a greater portion of activity required to support the change in final demand could come from within the study area's boundaries. However, for a small study area like a county, multipliers could be lower because the county's economy is not as diverse and large.

IMPLAN generates multipliers for each economic sector and range from 1 to 3, with manufacturing sectors typically generating the highest multipliers in an economy. If an industry has a total output multiplier of 1.5, then $100 of spending will generate $150 of total output. In this analysis, the spending by the film industry in Pennsylvania is the change in final demand, and the multiplier can be applied to that change. The table below shows the five largest and smallest output multipliers for the Commonwealth of Pennsylvania. There were 422 sectors with output multipliers in Pennsylvania. The multiplier for the film industry is 1.96 meaning that for every $100 spent by motion picture industries, an additional $96 was generated in other industries through indirect and induced impacts. The motion picture industry ranked in the top 10 percent of industry multipliers in the Commonwealth of Pennsylvania.

Table 15 – Largest and Smallest Output Multipliers in Pennsylvania's Economy, 2007

Sector	Output Multiplier	Rank
Cheese manufacturing	2.4604	1
Handtool manufacturing	2.3100	2
Fluid milk and butter manufacturing	2.3045	3
Leather and hide tanning and finishing	2.2862	4
Poultry processing	2.2360	5
Motion picture and video industries	1.9602	30
All other miscellaneous professional, scientific and technical services	1.3593	418
Copper rolling, drawing, extruding and alloying	1.3570	419
Plastics pipe and pipe fitting manufacturing	1.3465	420
Real estate establishments	1.3324	421
Forestry, forest products and timber tracts	1.3306	422

Source: IMPLAN

Economic impacts are measured in terms of changes in economic growth and associated changes in employment and wages. The results of an economic impact analysis are reported as follows::

- **Output:** This is the total value of goods and services produced across all industry sectors and all stages of production within a defined geographic region.
- **Employment:** This represents the number of jobs needed to support the given economic activity across all sectors, often referred to as "jobs created." It includes all wage and salary employees, both part- and full-time, as well as self-employed jobs. It is measured in annual average jobs.
- **Earnings:** The total payroll costs (including benefits) of each industry. It includes the wages and salaries of workers who are paid by employers, as well as benefits such as health and life insurance, retirement payments and non-cash compensation. It also includes proprietary income received by self-employed individuals.
- **Total Value Added:** Value added refers to that portion of the value of total output that was actually created by the economic activity in an area and/or industry. It is the difference between the value of goods produced and the cost of materials and or supplies that are used in producing them. It includes wages, proprietary income, other property type income and indirect business taxes. Other property type income is comprised of rents, royalties, dividends and profits. Indirect business taxes include excise taxes, property taxes, fees, licenses and sales taxes paid by businesses that occur during the normal operation of businesses but do not include taxes on profit or income.
- **Fiscal Impacts:** These are the revenues, both taxes and fees, generated at the federal, state and local levels resulting from the economic activity. In addition to income, sales and property taxes, this includes fees paid to governments, including motor vehicle licensing fees, fines and payments for permits.

To determine the economic impact of Pennsylvania's motion picture industry, ERA used data from the Pennsylvania Film Office, within the Pennsylvania Department of Community and Economic Development. This office tracks the amount of money spent in Pennsylvania by companies that have been approved for state incentives for film production. Only the dollars spent in Pennsylvania are considered the economic stimulus. Only after these dollars are audited independently are tax credits awarded. The impacts from fiscal years 2005-2006, 2006-2007 and 2007-2008 are presented in this report. The information for the current fiscal year is incomplete, therefore the associated impacts have not been included in this report.

Economic Impacts of the Film Tax Credit Program

In economic impact analysis, it is important to measure when spending is occurring. The data provided to ERA from the Pennsylvania Film Office included the start and completion dates for projects that have submitted their monthly reports and audited financial statements. From this, ERA was able to estimate the approximate length of production for projects with missing information in previous years and for projects that are still currently in production. For a review of the tax credit legislation and projects that received tax incentives, see Appendix B.

For fiscal years 2005-06 and 2006-07, production has been completed and tax credits issued. However, in FY 2007-08, there are 37 projects for which awards have not yet been completed and filed all documentation necessary for issuance of a tax credit certificate. Based on the relationship between projected and actual spending for completed projects in FY 2007-08, ERA projected estimated spending for incomplete applications. Costs were averaged across the months of productions to estimate when spending occurred in Pennsylvania. Due to the nature of motion picture production, a single project may have expenditures in multiple fiscal years resulting in spending totals that differ from approved spending by fiscal year. The table below summarizes when applications were approved and when expenses were incurred by fiscal year. For example, in FY 2006-07, the 9 approved projects incurred a total of $96.8 million in expenditures in Pennsylvania, the majority of which was spent during FY 2005-06 but there were also expenses made in the following fiscal year.

Table 16 – Analysis of Spending for Approved Productions

Year Spending Approved (millions)		Year Spending Occurred (millions)						
Year	Total	FY 03 -04	FY 04 -05	FY 05 -06	FY 06 -07	FY 07 -08	FY 08 -09p	FY 09 -10p
FY 05-06	$35.86	$0.12	$0.02	$35.70	$0.01			
FY 06-07	$96.80			$86.70	$10.10			
FY 07-08	$260.06			$0.03	$12.57	$178.27	$69.09	$0.09
Total	$392.72	$0.12	$0.02	$122.44	$22.67	$178.27	$69.09	$0.09

Note: Totals may not add due to rounding
p = preliminary estimate
Sources: Pennsylvania Film Office; ERA

ERA used the spending estimates by fiscal year to measure the economic impacts. There were $122.4 million in actual expenses associated with production in FY 2005-06, $22.7 million in FY 2006-07 and $178.3 million in FY 2007-08. As shown in the following table, these are the direct impacts. Since there were relatively modest expenditures made in FYs 2003-04 and 2004-05 they were not included in ERA's analysis. Spending projected to occur in FYs 2008-09 and 2009-10 were not included in this table since they are still preliminary.

The following table shows that in FY 2007-08, the $178.3 million in direct spending generated $350.6 million in total economic output throughout the Commonwealth of Pennsylvania. The direct spending supported 1,400 jobs in the motion picture industries paying $39.4 million in wages and benefits. An additional 1,260 in other sectors based on the inter-industry relationships (i.e., the multiplier effect) were supported indirectly as a result of these productions occurring in Pennsylvania bringing the total jobs to 2,660.

The reason for examining total value added is that it represents the degree to which various stakeholders throughout Pennsylvania are enriched by a given activity. It includes payments made to individuals (employee compensation), business owners (proprietary income or corporate profits), investors (dividends, economic rents and royalties) and governments (sales and excise taxes). Total value added does not include taxes on profit or income which are included in the fiscal impacts. In FY 2007-08, the total value added generated as a result of the $178.3 million in production expenses was $148.3 million.

Table 17 – Impacts for Film Tax Credit Projects by Year Expenditure Occurred

	FY 2005-2006	FY 2006-2007	FY 2007-2008
Output (millions)			
Direct	$122.4	$22.7	$178.3
Indirect + Induced	$116.8	$22.0	$172.3
Total	$239.2	$44.7	$350.6
Total Value Added (millions)			
Direct	$37.0	$6.8	$53.8
Indirect + Induced	$64.0	$12.1	$94.5
Total	$101.0	$18.9	$148.3
Labor Income (millions)			
Direct	$27.1	$5.0	$39.4
Indirect + Induced	$39.0	$7.4	$57.8
Total	$66.1	$12.4	$97.2
Employment (jobs)			
Direct	990	180	1,400
Indirect + Induced	900	170	1,260
Total	1,890	350	2,660
Fiscal Impacts (Fees, Permits and Tax Revenues)			
Federal	$16.1	$3.0	$22.7
State and Local	$8.3	$1.5	$11.7
Total	$24.4	$4.5	$34.4

Economic activity like wages, sales and profits generate tax revenue for federal, state and local governments. In addition to income, sales and property taxes, this includes fees paid to governments, including motor vehicle licensing fees, fines and payments for permits. Motion picture projects that received state incentives generated $11.7 million in state and local tax revenue during

FY 2007-08. The distribution of these impacts across other sectors in Pennsylvania's economy can be found in Appendix C.

V. Cost Benefit Analysis

In this section, ERA examines the costs and benefits associated with Pennsylvania's Film Tax Credit program for FY 2007-08.

Tax Credits Issued and Transferred

Once an approved project is complete, the company is required to hire an independent auditor to determine what expenditures were actually made in the Commonwealth. This is then submitted to the Pennsylvania Department of Community and Economic Development and once reviewed and approved, tax credits are issued. As discussed earlier, for projects that received tax credit awards in FY 2007-08 for which tax credits were issued, actual, qualified expenses for the projects were, on average, slightly lower than original estimates on the application. As a result, the tax credits issued will also be lower since they are based on qualified expenditures. Recall that there were 72 projects approved in FY 2007-08 for the entire $75 million in tax credits, but three applications were withdrawn. As of April 2009, 32 of the 69 projects have completed this process and have been issued $51.2 million in tax credits. Applying this pattern to the remaining 37 projects, ERA estimates they will qualify for $13.6 million in tax credits for a combined total of $64.8 million. Time is also a factor from when the tax credits are issued to when they are transferred. Only 12 of the 32 projects that have been issued tax credits to date have transferred the credits. Often, film production companies do not have a Pennsylvania tax liability and therefore sell the credits to a company that does. The tax credits can be transferred to any corporation doing business in the Commonwealth and subject to Pennsylvania taxation.

The following table shows the projected timeline for when tax credits for projects approved in FY 2007-08 will be issued and subsequently transferred based on information collected by the Pennsylvania Film Office. In FY 2007-08, an estimated $4.5 million in tax credits were issued, though only $2.4 million were transferred. Of the $51.2 million of tax credits that have been issued to date, the majority ($29.7 million) are expected to be transferred during FY 2008-09. Of the outstanding $13.6 million in estimated tax credits to be issued, ERA projects the largest share ($12.5 million) will be issued during FY 2009-10, and all should be transferred by the end of FY 2010-11.

Table 18 – FY 2007-08 Film Tax Credits by Year Transferred (millions)

	FY 07 -08	FY 08 -09	FY 09 -10p	FY 10 -11p	Total
Tax Credits Issued					
Actual	$4.5	$46.7	–	–	$51.2
Estimated	–	$1.2	$12.5	–	$13.6
Total	$4.5	$47.9	$12.5	–	$64.8
Tax Credits Transferred					
Actual	$2.4	$29.7	$19.1	–	$51.2
Estimated	–	$0.6	$7.9	$5.1	$13.6
Total	$2.4	$30.3	$27.0	$5.1	$64.8

p=preliminary
Sources: Pennsylvania Film Office; ERA

Of the estimated $64.8 million in total tax credits to be issued for productions approved in FY 2007-08, only a small share will be realized in the same fiscal year, $2.4 million. An additional $30.3 million will be realized in FY 2008-09, $27.0 million is projected to occur in FY 2009-10 and the remaining $5.1 million projected for FY 2010-11.

Realization of Benefits and Costs

ERA's analysis has shown that the films, commercials, videos and documentaries approved in a fiscal year will have benefits (i.e., economic and fiscal impacts) and costs (i.e., tax credits) in subsequent fiscal years due to long production cycles and the time needed to conduct an audit post-production, have it reviewed, approved and then have the tax credits issued. In this section, ERA examines the economic and fiscal impacts of when spending occurred for projects approved in FY 2007-08, and what the associated costs are for the Commonwealth of Pennsylvania. Note that this analysis is slightly different from that above. Here ERA examines only those projects that were approved in FY 2007-08 and performs economic impact analysis on when the expenditures for those projects occurred for the multiple fiscal years. Also included are known additional impacts generated by studios on construction, equipment purchases and additional revenues for FY 2007-08. Then using the findings from the tax credit realization analysis above, ERA can determine what the cost will be to Pennsylvania for each year with production impacts.

The 69 approved productions in FY 2007-08 generated $260.1 in qualified expenditures. In addition to this spending on the production of films, commercials and videos receiving film tax credits, there have been many infrastructure improvements as well as investments in equipment at studios throughout Pennsylvania. Based on interviews with studio executives and other industry professionals, ERA estimated that there was an additional $7.2 million of related spending during FY 2007-08. This includes purchases for construction, rehabilitation of buildings and equipment such as trucks, trailers and lighting as well as additional revenues generated from productions that did not receive film tax credits but were enabled by them. Note that $7.2 million is not comprehensive, but a summary of readily available information obtained through interviews. Combined, the total direct spending associated with projects in FY 2007-08 is $267.3 million.

The estimated cost to the Commonwealth is $64.8 million in tax credits. As shown below, the expenditures for these 69 productions occurred across four fiscal years with the majority ($178.3 million) occurring in FY 2007-08. The total economic impact of the $267.3 million in spending is projected to be $524.5 million with an estimated 3,950 jobs across multiple fiscal years. The total state and local revenues generated by taxes, fees and permits is estimated at $17.9 million for FY 2007-08 projects.

Table 19 – Impacts for FY 2007-08 Approved Projects and Add-Ons by Year of Spending

	FY 06 -07	FY 07 -08	FY 08 -09p	FY 09 -10p	Total
Direct Spending (millions)					
Productions	$12.6	$178.3	$69.1	$0.1	$260.1
Add-ons	–	$7.2	–	–	$7.2
Total	$12.6	$185.4	$69.1	$0.1	$267.3
Total Economic Impacts					
Total Output (millions)	$24.7	$363.6	$136.1	$0.2	$524.6
Total Value Added (millions)	$10.5	$155.3	$57.6	$0.1	$223.5
Wages (millions)	$6.8	$101.8	$37.7	$0.1	$146.4
Jobs	190	2,740	1,020	0	3,950
Fiscal Impacts (Fees, Permits and Tax Revenues)					
State and Local (millions)	$0.8	$12.5	$4.5	$0.0	$17.9

p = preliminary
Note: Totals may not add due to rounding.
Sources: Pennsylvania Film Office; IMPLAN; ERA

When doing cost benefit analysis, it is important to adjust both expenditures and revenues for the time value of money. A simple explanation for why this is done is that a dollar today is worth more than a dollar tomorrow. Therefore future revenues and costs are adjusted downward to reflect their value in current dollars. ERA used the federal government discount rate of 7 percent and an average inflation rate of 3 percent to come up with a present value of the projected costs and benefits for the 69 approved projects plus the additional industry spending in FY 2007-08 as shown below.

Also included in the table below are the estimated fiscal benefits in the form of tax revenues, fees and permits generated by the entire motion picture industry in the Commonwealth. While many businesses in the industry derive part of their operating revenues from tax-credit related enterprise, there is significant business occurring throughout the Commonwealth that is not directly receiving incentives but benefits from investment in capital, equipment and workforce related to tax credits. These revenue streams may be indirectly dependent on those incentives. Therefore, generating economic impacts based solely on the spending generating from tax credits will omit these other revenues and not present a complete picture of the motion picture industry. For this reason, ERA examined multiple data sources to ascertain the size of the entire motion picture industry in the Commonwealth. Details of this analysis can be found in Appendix D. ERA estimates the state and local governments across the Commonwealth received $62.7 million in taxes and fees during the 2007 calendar year as a result of this industry's economic contribution.

The estimated $64.8 million in tax credits issued to approved productions during FY 2007-08, based on ERA's calculations, has a net present value of $58.2 million. This figure takes into account the time from project application, production, completion, audit, review and tax credit issuance. Although the state and local taxes generated by the $524.6 million in total economic impact of the approved projects is $17.9 million, the industry as a whole brings the state and local governments $62.7 million in revenues from taxes, fees and permits. Although there is a net fiscal loss when comparing the cost of the Film Tax Credit program ($58.2 million) to the taxes generated by productions directly receiving tax credits ($17.9 million), there is a net fiscal gain to the Commonwealth of $4.5 million when considering all of the revenues generated by the entire industry.

Table 20 – Net Present Value of FY 2007-08 Projected Impacts

	Totals
Economic Benefits	
Direct Spending (millions)	$267.3
Output (millions)	$524.6
Wages (millions)	$146.5
Jobs	3,960
Fiscal Benefits (State and Local Fees and Tax Revenues)	
Associated with FTC program	$17.9
Entire Industry	$62.7
Fiscal Costs	
Tax Credits Transferred (millions)	$58.2
Net Fiscal Loss/Gain	
Associated with FTC program	-$40.3
Entire Industry	$4.5

Sources: Pennsylvania Film Office; IMPLAN; ERA

Appendix A – Canadian and U.S. Film Production Incentives

Table 21 – Current Provincial Film Incentives in Canada, 2009

Province	Type	Amount	Project Caps (in C$)	Annual Funding Caps (in C$)
Alberta	Cash grant	14-23%	$1,500,000	$34,000,000
British Columbia[1]	Refundable tax credit	25%	None	None
Manitoba[2]	Refundable tax credit	45%	None	None
New Brunswick	Refundable tax credit	40%	50% of total production costs	None
Newfoundland and Labrador	Refundable tax credit	40%	Lesser of 25% of total production costs or $3 million	None
Ontario[3]	Refundable tax credit	25%	None	None
Prince Edward Island	Refundable tax credit	35%	None	None
Quebec[4]	Refundable tax credit	25%	None	None
Saskatchewan[5]	Refundable tax credit	45%	50% of total production costs	None
Yukon	Labor, travel and training rebates	35-50%	50% of total production costs	None

[1] British Columbia also offers 3 additional tax credits, including: (1) a 15% additional credit on Digital Animation and Visual Effects; (2) an additional 6% "regional" labor bonus; and (3) an additional 6% "distant" labor credit.
[2] Manitoba also offers 3 additional tax credits, including: (1) a 5% Regional Tax Credit; (2) a 1% Frequent Filming bonus; and (3) Manitoba Producer Incentive.
[3] Ontario also offers a 20% Ontario Computer Animation and Special Effects Tax Credit bonus.
[4] Ontario also offers a 20% Quebec Computer Animation and Special Effects Tax Credit bonus.
[5] Saskatchewan also offers two additional tax credits, including: (1) a 5% Regional Tax Credit bonus; (2) a 5% Key Position bonus
Source: Entertainment Partners and Economics Research Associates

Table 22 – Current Film Production Incentives by State

State	Production Co. Tax Credit	Carry Forward Period	Project Caps/ Funding per Year	Infrastructure Tax Credit	Wage/ Withholding Credits	Sales Tax Exemption	Lodging Tax Exemption
Alabama	25% ®		$5 million in FY 2009		35%	✓	✓
Alaska	30% (T)	3 years	Aggregate tax credits ≤ $100 million		10%, plus 2% rural	No Tax State	
Arizona	20-30% (T)	5 years	$8 million per project in 2009	15% of base investment		✓	
Arkansas*	15% CR		Unknown at this time		10%		
California*	20-25%	5 years	$100 million per fiscal year beginning 2011			✓	✓
Colorado	10% CR		FY 2007-08 $600,000				✓
Connecticut	30% (T)	3 years	None for production expense and infrastructure	10-20%		✓	✓
Delaware	NONE						
Dist. of Columbia	10% CR		$1.6 million per year			Grant may apply	
Florida	15% CR + bonuses		$200-$400K on residents/$5 million in FY 2008			✓	
Georgia	20% (T) + 10% bonus	5 years	$500,000 per person per project/No annual cap			✓	
Hawaii	15%-20% ®		$8 million per project/ No annual cap				
Idaho	20% CR		$500,000 per project[1]			✓	✓
Illinois	30% (T)	5 years	Up to $100K per resident/No annual cap		15%		✓

State	Production Co. Tax Credit	Carry Forward Period	Project Caps/ Funding per Year	Infrastructure Tax Credit	Wage/ Withholding Credits	Sales Tax Exemption	Lodging Tax Exemption
Indiana	15% ®		No per project cap/$5 million annual funding			✓	✓
Iowa	25% (T)	5 years	Investor's pro rata share	25% (T)			✓
Kansas	30%		$2 million per year				✓
Kentucky	NONE	✓	✓				
Louisiana	25% ® (T)		No annual caps		10%		
Maine			Wages capped @ $ 1 million per person/No annual cap		10%-12%	✓	✓
Maryland	25% CR		No per project cap/$4 million budget FY 08-09			✓	
Massachusetts	25% ® (T)	5 years	None		25%	✓	
Michigan	40-42% ® & T	10 years	$2 million cap per person	25% (T)	30%		✓
Minnesota	15-20% CR		$1.3 million for FY 2009			✓	✓
Mississippi	20% CR		$8 million per project/$20 million FY cap		20-25%	✓	
Missouri	35% (T)	5 years	$4.5 million annual funding				
Montana	9% ®		$50K on resident wages/ No annual cap		14%	No Tax State	✓
Nebraska[p]			NONE				✓
Nevada			NONE				✓

State	Production Co. Tax Credit	Carry Forward Period	Project Caps/ Funding per Year	Infrastructure Tax Credit	Wage/ Withholding Credits	Sales Tax Exemption	Lodging Tax Exemption
New Hampshire			NONE			No Tax State	
New Jersey	20% (T)		$10 million per year			✓	✓
New Mexico	25% ®		$5 million cap per project/No annual cap			✓	
New York	30% ®		$75 million in 2009	4-5% eligible investment base		✓	
North Carolina	15% ®		$1 million on compensation and $7.5 million per feature/No annual cap			✓	✓
North Dakota			NONE				✓
Ohio			NONE				✓
Oklahoma	5-15% CR		$5 million per year			✓	
Oregon	20% CR		No per project cap/$5 million in annual funding		16.2%	No Tax State	✓
Pennsylvania	25% (T)	3 years (recipient only)	$15 million per project/$75 million in annual funding				✓
Rhode Island	25% (T)		Annual cap of $15 million	Lesser of 40% of the cash investment or 20% of the budget			
South Carolina	30% CR		No per project cap/$5.5 million in annual funding & 10 million for wage rebate		10-20% CR	✓	✓

State	Production Co. Tax Credit	Carry Forward Period	Project Caps/ Funding per Year	Infrastructure Tax Credit	Wage/ Withholding Credits	Sales Tax Exemption	Lodging Tax Exemption
South Dakota			NONE			✓	✓
Tennessee	13-17% G & ® + bonuses		$12 million per year			✓	✓
Texas	5% G + bonus		$2 million per feature, $2.5 million per TV, $200,000 per commercial/$10 million in annual funding		includes resident wages	✓	✓
Utah	15% CR & ®		$500,000 per project/$7.8 million FY 2009-10			✓	✓
Vermont			NONE			✓	✓
Virginia	CR - amt. discretionary		$200,000 for FY 09			✓	✓
Washington	20% CR		Annual cap of $3.5 million		includes resident wages	✓	✓
West Virginia	27% (T) + bonus	2 years	No per project cap/$10 million in annual funding			✓	✓
Wisconsin[2]	25% ®	15 years	$25K per person cap for residents/no annual cap		includes resident & non-resident wages	✓	
Wyoming	12-15% CR		Annual cap of $2 million			·	✓

[*] Tax credit approved within past 2 months.
[1] Idaho's rebate has been approved but not yet funded.
[2] Budget proposal exists to replace current program with $1 million program that would provide $500K annual for infrastructure projects.
® =refundable tax credit, CR = cash rebate, G = Grant, P = pending legislation, (T) = transferable tax credit
Source: Individual film commissions; Entertainment Partners (February 2009); and Economics Research Associates

Appendix B – Pennsylvania Film Tax Credit Program

This section provides a brief review of the film incentive legislation enacted in the Commonwealth of Pennsylvania as well as the types of projects that received tax credits and grants through these programs.

History of Film Production Incentives

Tax credit legislation was first enacted in Pennsylvania during fiscal year 2004-05. Act 95 of 2004, which was signed into law on July 20, 2004, created the Pennsylvania Film Production Tax Credit. The intent of the legislation was to promote the production of television series and movies in Pennsylvania by offering a tax credit for certain production expenses. Only those productions where at least 60 percent of production expense were incurred in Pennsylvania were eligible. The credit equaled 20 percent of the qualified production expenses. Several costs were not eligible for the tax credit including costs associated with marketing and advertising costs, purchasing story rights, music rights or development costs.

Applications were originally filed through the Department of Revenue. The tax credits were awarded pro-rata to each applicant based on total qualified expenditures. The legislation was amended and beginning in January 2005, the Department of Community and Economic Development (DCED) administered the applications and tax credits. Credits were then awarded on a "first come, first served" basis using the date applications were received and approved. There was a $10 million cap per fiscal year for the program.

The Pennsylvania Film Production Tax Credit was replaced with a $10 million grant program (Act 42 of 2006) for FY 2006-07. The Pennsylvania Film Production Grant Initiative, also known as Creativity in Focus, was established to promote the film industry in Pennsylvania. Similar to previous legislation, a qualified production had to spend a minimum of 60 percent of its total budget on qualified expenditures in the Commonwealth of Pennsylvania. Qualified productions were targeted for national audiences and included feature films, television films, television pilot or episodes of a television series. Salary expenses were capped at $1 million per person. The grant could neither exceed $2 million nor 20 percent of the qualified production expenses.

In FY 2007-08, the Pennsylvania Film Production Tax Credit was enacted (Act 55 of 2007) which created a film production tax credit of $75 million per fiscal year and amended the tax grant program to $5 million. Effective July 1, 2007, the amount of the tax credit for an eligible project was up to 25 percent of qualified film production expenses (20 percent for a grant) if at least 60 percent of the qualified production expenses occurred in Pennsylvania. Eligible projects included feature films, television films, a television talk or game show series, a television commercial, a television pilot or each episode of a television series intended as programming for a national audience. Applications were considered in the order in which they were received. In the Guidelines for the program, DCED reserved the right to limit the tax credit to no more than 20 percent of the entire fiscal year allocation ($15 million) for a single production.

Applications were filed with the Department of Community and Economic Development no sooner than 90 days prior to the start day of principal photography in the Commonwealth. All tax credits were awarded subject to the availability of funds. Once an application was approved and production begun, the applicant was required to submit monthly progress reports as well as a final report. The final report was submitted within 60 days of project completion. In addition, an independently audited report of all production expenses was required upon completion of the project. Tax credit certificates were issued by the DCED upon review and approval of all required documents.

The $75 million tax credit was renewed for FY 2008-09, though the $5 million grant program was not. With very few exceptions, the process and procedures described above for FY 2007-08 have continued to govern the program in FY 2008-09.

Projects that Received State Incentives

Since the legislation that provided incentives for qualified productions was first enacted, there have been more than 100 productions awarded tax credits or grants. In the course of evaluation or production, however, some projects were rejected or withdrawn. In FY 2005-06, there were 15 projects that qualified for $10 million in tax credits. In FY 2006-07, $10 million in grants was awarded to 9 projects.

With the significant change in legislation for FY 2007-08, the number of projects awarded incentives increased dramatically. In FY 2007-08, 72 projects were awarded tax credits through the Film Production Tax Credit based on their applications. Three projects were withdrawn after an award was made and accepted by the applicant. As of April 2009, 33 projects had completed the independent audit and were issued approximately $51.2 million in tax credits.

Table 23 – Summary of Production Projects with State Incentives

	FY 2005-2006	FY 2006-2007	FY 2007-2008	Total
Productions Awarded Incentives	15	9	69	93
Tax Credits Issued	$9,995,692	–	$51,197,085	$61,192,777
Tax Credits Awarded (not yet issued)	–	–	$15,200,000	$15,200,000
Grants Issued	–	$10,000,000	–	$10,000,000

Source: Pennsylvania Film Office

The Pennsylvania Film Office has allocated the full $75 million in tax credits for FY 2007-08, however, as noted above, three applications were withdrawn. In addition, based on audited information gathered to date, approved spending often differs from actual expenditures. On average, ERA determined that for projects that received a tax credit award in FY 2007-08 and for which a tax credit has been issued, the amount of approved expenditures are 10 percent higher than actual expenditures, resulting in lower than anticipated tax credits issued. ERA estimates that the remaining 36 approved projects from FY 2007-08 currently in production or being audited, will collectively receive $13.6 million in tax credits resulting in a total of $64.8 million awarded for FY 2007-08. A complete list of approved projects by fiscal year is found below.

Table 24 – Fiscal Year 2005-06 Projects

Company	Tax Credits Issued
Mother B Productions Inc	$3,875,160
Who's Nuts Production	$2,806,622
Banyan Productions Inc	$1,309,283
10th & Wolf LLC	$1,126,365
Sandy Leaf Productions LLC	$555,443
Little Branch LLC	$128,583
Land the Movie LLC	$79,373
Shadowboxer LLC	$28,432
White Men Can't Rap LLC	$24,900
F K Hollywood Productions LLC	$18,449
Inecom Inc	$17,821
Cathedral of Basketball LLP	$8,567
Hail Mary Productions, LLC	$8,204
Argentine Production Inc	$7,617
Amerikan Film Society LLC	$874
Total	$9,995,692

Source: Pennsylvania Film Office

Table 25 – Fiscal Year 2006-07 Projects

Company	Production	Grant
Rebellion Pictures LLC	Lady in the Water	$6,225,086
Who's Nuts Production	Invincible	$2,297,560
SRI & Company Inc	The Block	$692,412
Graduation Film Production LLC	Graduation	$550,475
Ted's MBA LLC	Ted's MBA	$83,381
The Home Project LLC	Home	$79,596
MOP Productions INC	Mysteries of Pittsburgh	$28,607
Blue Diamond Entertainment	Pain Within	$25,482
Head Space Production LLC	Head Space	$17,401
Total		$10,000,000

Source: Pennsylvania Film Office

Table 26 – Fiscal Year 2007-08 Projects with Approved Tax Credit Awards

Company	Production	Approved Tax Credit Award
Twentieth Century Fox Film Corp.	The Happening	$12,053,359
DreamWorks Productions LLC	The Lovely Bones	$8,507,585
The Road Productions, LLC	The Road	$6,086,566
Shelter Productions LLC	Shelter	$5,808,452
Blue Askew Inc.	Zack and Miri	$5,720,097
Cupid Productions Inc	My Bloody Valentine	$4,528,688
DreamWorks Productions LLC	She's Out of My League	$3,944,085
Kill Pit Productions Inc.	Kill Point (Episodes 2-8)	$3,821,693
Hats Off to Larry Productions Inc	Adventureland	$2,475,000
Our Lady of Victory LLC	Our Lady of Victory	$2,059,820
Susceptible, LLC	Happy Tears	$1,684,469
Smart People, Inc.	Smart People	$1,508,454
Tenure Productions	Tenure	$1,249,015
Shannon's Rainbow, LLC	Shannon's Rainbow	$1,151,443
The Verdict Productions 1, Inc.	The Verdict (Pilot)	$1,134,076
Roman Dreams LLC	The Dream of the Romans	$1,131,746
6 Nations Studios LLC	Hollywood & Wine	$1,044,103
Crimson Films LP	Malevolence 2 LP	$731,200
Animus Films LLC	Homecoming	$590,508
SSIP LLC	Dinner Impossible Season #2	$559,182
SSIP LLC	Dinner Impossible Season #1	$524,798
Explicit Ills LLC	Explicit Ills	$499,634
International Artist Studio	Spring is for Lovers	$473,750
Banyan Productions Inc	Annual Cruise Guide Great Cruise Ships	$450,439
Smithfield Street Productions	The Bridge to Nowhere	$412,561
Nancy Glass Productions	Spice up My Kitchen	$400,127
Banyan Productions	Trading Spaces (Season 7)	$314,309
DARE Productions LLC	Dare	$301,073
Lebanon Productions, LLC	Lebanon	$278,232
Neo Art & Logic Inc.	Buddy Gilbert Comes Alive	$251,611
Bottleworld LLC	Bottleworld	$251,292
International Artist Studio	Sleeping with the Fishes	$245,625
R Life Entertainment Group	Jagged	$198,071

Company	Production	Approved Tax Credit Award
Nancy Glass Productions	Save My Bath (Series 5)	$193,619
International Artist Studio	Have a Heart	$189,000
Nancy Glass Productions	Rip & Renew	$175,662
The Nail LLC	The Nail	$148,539
Another Harvest Moon LLC	Another Harvest Moon	$146,248
Banyan Productions Inc	Deliver Me (Season 1)	$128,657
The My Dog Tulip Company, LLC	My Dog Tulip	$127,625
Banyan Productions	The Big Move	$113,452
International Artist Studio	Battle of Big Timber Creek	$103,000
International Artist Studio	Alone	$64,500
Barnestorm Pictures LLC	Battle for the Barnes	$54,984
Shooters Inc	Disney Toy Spots	$54,944
Shirley Road Productions	The Schuylkill Navy	$50,078
Banyan Productions Inc	Your Dog is Fat and So Are You	$49,200
Winter Morning Pictures LLC	Trapped	$40,440
Banyan Productions	A Wynn in the Off Season	$33,586
Banyan Productions Inc	RCCL Asia Cruise Excursion Special	$33,269
Nancy Glass Productions	RV2008	$27,290
Banyan Productions Inc	Buy This House	$22,392
Big Smack TV Inc	Americas Port	$16,250
Big Smack TV Inc	National Geographic: LA Hardhats Promo	$15,000
Big Smack TV Inc	Cox My Primetime Promo	$14,354
A Chip & A Chair Films	If You Could Say It In Words	$14,269
Big Smack TV Inc	Fight Science	$13,393
Big Smack TV Inc	Who Knew Promo	$11,900
Big Smack TV Inc	Comedy Central Cheetos Promo	$11,793
Big Smack TV Inc	Six Degrees	$11,200
Big Smack TV Inc	Movie UP	$10,264
International Artist Studio	Why Me	$7,750
Big Smack TV Inc	Transformers CTW	$7,500
Hammer Space	American Macho Buddha	$6,710
International Artist Studio	Holiday Chaser	$6,250
Big Smack TV Inc	Juno CTW	$6,250
Big Smack TV Inc	NatGeoTV.com Promo	$4,750
Big Smack TV Inc	Holiday Gift Preview Spot	$3,073
No Sanctuary Production Co. LLC	No Sanctuary	$2,522
Total		$72,310,776

Source: Pennsylvania Film Office

Appendix C – Inter-Industry Analysis and Impacts

The motion picture industry impacts many other sectors. The following table shows how spending by companies in this industry is distributed throughout the economy. Both local and imported commodities are purchased. For example, nearly 70 percent of each dollar spent by a Pennsylvania company involved in production, post-production or distribution of motion pictures or videos is distributed among other companies in sectors such as advertising (9.5%), real estate (8.3%) and software (3.4%). The remaining share is spent on wages, proprietary income, other property income and indirect businesses.

Table 27 – Motion Picture Industry Distribution of Expenditures

Industry	Coefficient
Motion picture and video industries	17.1%
Advertising and related service	9.5%
Real estate establishments	8.3%
Software, audio and video media reproducing	3.4%
Management, scientific and technical consulting services	2.5%
Independent artists, writers and performers	2.2%
Employment services	1.7%
Office administrative services	1.5%
Legal services	1.5%
All other misc. professional, scientific and technical services	1.4%
Management of companies and enterprises	1.3%
Insurance carriers	1.3%
Electric power generation, transmission and distribution	1.2%
Telecommunications	1.1%
Monetary authorities and depository credit intermediation	1.1%
Subtotal	55.0%
Total all commodities	69.8%
Total Value Added	
Employee Compensation	21.7%
Proprietary Income	0.5%
Other Property Income	7.2%
Indirect Business Taxes	0.8%
Total	30.2%

Sources: IMPLAN; ERA

The output impact of qualified expenditures can be felt in other sectors of the economy as measured by the indirect and induced impacts. The top 10 industries benefitting from spending during FY 2007-08 by film industry companies that received tax credits are shown in the table below. The $178.3 million directly spent by motion picture productions in Pennsylvania, indirectly added $15.9 million to real estate firms throughout the Commonwealth. Recall that these are not just expenditures made by motion picture companies directly to the real estate establishments. It may also include the expenditures made by caterers to real estate firms with money they received from motion picture productions (indirect impacts) and rents paid by the caterers' employees (induced impacts).

Table 28 – Top Ten Industries with Indirect and Induced Impacts from Film Industry Activity, FY 2007-08

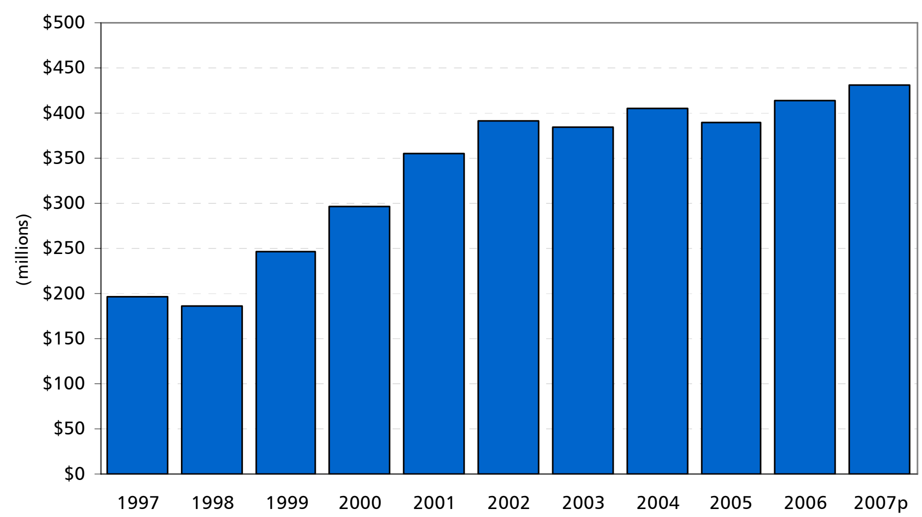
Industry	Indirect Impacts (millions)	Share
Real estate establishments	$15.9	4.5%
Software, audio and video media for reproducing	$6.4	1.8%
Imputed rental activity for owner-occupied dwellings	$6.1	1.7%
Management- scientific- and technical consulting services	$4.7	1.3%
Wholesale trade businesses	$4.6	1.3%
Advertising and related services	$4.5	1.3%
Legal services	$4.2	1.2%
Management of companies and enterprises	$4.0	1.1%
Insurance carriers	$4.0	1.1%
Food services and drinking places	$3.9	1.1%
Top Ten Industries	$58.3	16.6%

Sources: IMPLAN; ERA

Appendix D – Size and Impacts of Pennsylvania's Film Industry

ERA used multiple data sources to estimate the size of the entire motion picture industry in Pennsylvania. The following chart presents the gross state product (GSP) for Pennsylvania's motion picture and sound recording industries (NAICS 512). Gross state product is the value added in production by the labor and capital located in a state. An industry's GSP is equivalent to its gross output (sales or receipts and other operating income, commodity taxes and inventory change) minus its intermediate inputs (consumption of goods and services purchased from other U.S. industries or imported). In 2006, the most recent year with complete data, the GSP in the motion picture and sound recording industry was $413 million and ERA estimates that it may have reached approximately $430 million in 2007.

Figure 11 – Gross State Product, Motion Picture and Sound Recording Industries



Source: U.S. Bureau of Economic Analysis

Using the relationship between total value added and output in IMPLAN, ERA estimates $1.4 billion in sales for these combined industries in 2007. However, this figure includes both the sound recording industries (NAICS 5122) and movie theater exhibitions (NAICS 51213), both of which are excluded from ERA's definition of the motion picture industry for purposes of the impact analysis.

ERA next examined the estimated the total industry output of the motion picture industry as defined by IMPLAN (NAICS 51211, 51212, 51213 and 51219) which is a closer match to ERA's industry definition. In 2007, IMPLAN estimated sales for these sectors to be $1.1 billion. To subtract out the share of sales attributed to movie theaters (NAICS 51213), ERA used data from the 2002 Economic Census (2007 data is not yet available). As shown below, movie theaters accounted for 17.2 percent of total sales nationally during 2002. Applying this relationship to the Pennsylvania data, ERA estimates the total output of Pennsylvania's motion picture industry to be approximately $947.6 million in 2007.

Table 29 – U.S. Motion Picture Industry (NAICS 5121), 2002

NAICS	Industry	Firms	Sales (millions)	Jobs	Wages (millions)
51211	Motion picture & video production	11,163	$46,761.8	111,112	$7,389.8
51212	Motion picture & video distribution	484	$1,161.9	3,760	$200.4
51213	Motion picture & video exhibition	5,264	$10,837.8	129,982	$1,272.5
51219	Postproduction & other industries	2,163	$4,165.2	26,371	$1,489.9
	Total	19,074	$62,926.6	271,225	$10,352.7

Source: U.S. Economic Census, 2002

ERA next used IMPLAN to measure the economic impacts of the estimated output in 2007. As shown in the following table, the $947.6 million in associated motion picture production revenues generated a total economic impact of nearly $1.9 billion in Pennsylvania, supporting more than 14,200 jobs in the economy. The state and local governments across the Commonwealth received $62.7 million in taxes and fees as a result of this industry's economic contribution.

Table 30 – Impacts of the State's Motion Picture Industry, 2007

	Impacts
Output (millions)	
Direct	$947.6
Indirect + Induced	$909.9
Total	$1,857.4
Total Value Added (millions)	
Direct	$286.2
Indirect + Induced	$499.0
Total	$785.2
Labor Income (millions)	
Direct	$209.6
Indirect + Induced	$304.8
Total	$514.4
Employment (jobs)	
Direct	7,490
Indirect + Induced	6,740
Total	14,230
Fiscal Impacts (millions)	
Federal Taxes	$121.6
State and Local Taxes	$62.7
Total	$184.4

Sources: IMPLAN; ERA

APPENDIX E

Response to This Report

pennsylvania
DEPARTMENT OF COMMUNITY
& ECONOMIC DEVELOPMENT

June 2, 2009

Honorable John Pippy
Chairman, Legislative Budget and Finance Committee
168 Main Capitol Building
Harrisburg, PA 17120

Dear Chairman Pippy:

The Pennsylvania Department of Community and Economic Development is pleased to respond to the Legislative Budget and Finance Committee's findings articulated in the study entitled Film Industry Analysis of May, 2009.

We applaud the LBFC for this in-depth look at one of the Commonwealth's more visible tax incentive programs. The findings of the LBFC report in our view, validate the 2007 initiative of Governor Rendell and PA Legislature in advancing the economy of one of Pennsylvania's most fertile industries.

LBFC's careful analysis of the film industry in Pennsylvania and key competitive states demonstrates that despite intense competition from many other states, Pennsylvania is well positioned to succeed in expanding the industry foundation currently in place and make film a key segment of the Commonwealth's economy in the future.

The film industry in Pennsylvania is expansive and vibrant, and the Commonwealth's workforce ranks among the best in the nation. In three of four categories measured by ERA: number of firms, jobs and wages, Pennsylvania ranked 2nd among this cohort of competitors. In each of those same three categories, Pennsylvania was ranked ahead of Louisiana and New Mexico, states that are most often cited as the benchmarks of success in the development of a stable and vibrant industry of the future.

The Commonwealth is now ranked among the top five filming locations in the nation by industry insiders despite the fact that from a production company perspective Pennsylvania does not have the "best" incentive in terms of form or percentage.

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One of the most interesting findings of the LBFC Report is the size and scope of the film industry in Pennsylvania. Not only is the industry larger and more extensive than previously understood but its role in attracting films was also underscored in the Report.

> "The benefits of an existing film support network, such as the one that currently exists in Pennsylvania . . . to an incoming film industry may ultimately prove to be one of the most important factors in film incentive competition between states."

As noted in the report, the Film Tax Credit creates jobs and increases economic activity. The jobs that are created by the Film Tax Credit pay higher wages than comparable employment using the same skills.

> "Employment of [the] local workforce is particularly noteworthy since film production/crew jobs tend to pay higher wages than comparable employment using the same skills. [A] greens man . . . or a costume designer working on a film production can earn nearly double their regular earnings [than] . . in a non-production-related-job.

The Film Tax Credit is an attractive economic development tool as film production is an export industry that primarily generates money from outside a region. Film productions generate new money without draining infrastructure and local resources.

The LBFC Report puts to rest once and for all the issue of whether the Film Tax Credit has a positive impact on the Commonwealth's treasury. The following facts support that:

- The Film Tax Credit is a key driver of industry activity and ancillary activity in the Commonwealth;
- As a whole, the film industry in Pennsylvania contributed $62.7 million to the Treasury in 2007;
- In isolation, the Film Tax Credit has a negative impact on the Treasury which is spread over several years; however, when all ancillary activity in the Commonwealth is taken into account, production activity generated by the Film Tax Credit in FY2007-08 enabled the industry to add a $4.5 million positive impact on the Commonwealth's coffers.

Buried in Appendix C of the LBFC Report is telling information about how intertwined the film industry is in the fabric of the Commonwealth's economy. Nearly 70 percent of each dollar spent by a Pennsylvania company involved in motion pictures or videos is distributed among other companies and the remaining share is spent on wages, proprietary income, other property income and indirect businesses.

As a result, not only would the elimination or reduction of the Film Tax Credit have a devastating impact on the industry, it will also have a devastating effect on the Commonwealth's economy and its future.

If the Film Tax Credit is cut or eliminated, in addition to losing jobs and economic activity, Pennsylvania will lose its competitive position and the future that it represents for Pennsylvania residents, businesses and communities. As ERA noted, "the costs of redeveloping such a capacity at a future point is likely to be much more costly than supporting and building on current economic capacity."

The LBFC report finds that skilled workers who move to the film industry are likely to increase their wages. Currently, at least 60 institutions in Pennsylvania offer programs geared to the industry. If we want the graduates of these institutions to stay in Pennsylvania, some of whom are the best and the brightest in the country, we must foster the industry that will hire them and keep them here. Not only is this true for new graduates, but it is also true for experienced workers who have lost jobs in other industries (carpenters, electricians, drivers, landscapers, hair dressers, etc.) and can use their skills in the film industry.

We recognize that the PA General Assembly is facing enormous pressure in the current fiscal environment to cut expenses or raise taxes. We believe the findings of the LBFC report make it abundantly clear now is NOT the time to raise taxes on this promising industry.

Sincerely,

J. Mickey Rowley
Deputy Secretary