The rise of Hollywood East: regional film offices as intermediaries in film and television production clusters

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THE RISE OF HOLLYWOOD EAST: REGIONAL FILM OFFICES AS INTERMEDIARIES IN FILM AND TELEVISION PRODUCTION CLUSTERS

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ABSTRACT

Prior research on project-based organizing in creative industries has emphasized the importance of regionally embedded institutions, creative networks and intermediaries in the development of regional project ecologies. Recently, film and television production in the United States has expanded beyond traditional clusters in Hollywood and New York to new locations in the United States, Canada and overseas, raising important questions about the dynamics of increasingly mobile creative project networks. Using data on the Massachusetts film and television industry between 1998 and 2010, we argue that regional film offices play an increasingly important role as network intermediaries in connecting mobile creative professionals and project entrepreneurs from outside a cluster with labor pools, service providers, and production locations inside a cluster on a project-by-project basis.

KEY WORDS: Creative industries, project organizing, cluster development, film industry, project networks, intermediaries

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Economic geographers have argued that creative professionals typically congregate within geographic clusters (FLORIDA, 2002; 2008; LORENZEN, 2005; BATHELT et al., 2004) and that geographic clustering helps them organize creative projects and longer-term project networks (SYDOW and STABER, 2002; GRABHER, 2004). Related research in creative industries like film, television, advertising publishing, and event organizing, has shown that regionally embedded labor markets, talent agencies, production firms, and local institutions promote the growth of project ecologies within particular regions (GRABHER, 2002a, 2004; SYDOW and STABER, 2002; EKYNSMITH, 2002). While we have a growing sense of how social networks co-develop with project ecologies in particular regional clusters (GRABHER, 2004), we know less about how these networks operate when projects span regions, and what this means for the development of nascent creative clusters. This question becomes ever more relevant as creative projects like films and television productions are increasingly distributed across regions (CHRISTOPHERSON, 2006; COE, 2000). In this paper, we use the case of the development of a nascent film and television production cluster in Massachusetts to understand how regional intermediary organizations like regional film offices help connect project-based creative networks with particular locations on an ongoing, project-by-project basis.

We already know that intermediaries – defined as brokers who connect and coordinate others (see e.g. LINGO and O’MAHONY, 2010) – are important for cluster development in creative industries (see e.g. GRABHER, 2004; SYDOW and STABER, 2002). Intermediaries play important roles as brokers and facilitators in idea generation (BURT, 2004), in project and team formation (LINGO and O’MAHONY, 2010), in coordinating emerging professional networks

(MANNING, 2010) and in selecting and presenting artistic projects and products (FOSTER, BORGATTI and JONES, 2011; BYSTRYN, 1989). In the film and television industry, for example, production firms perform intermediary roles as project entrepreneurs in coordinating freelance labor networks and connecting them to suitable creative projects (STARKEY *et al*., 2000; MANNING and SYDOW, 2011; FERRIANI *et al*., 2009). The geographic co-location of intermediaries, creative networks and supporting institutions has been seen as a defining feature of the film industry (SYDOW and STABER, 2002; JOHNS, 2010).

However, film and television productions and creative networks seem to increasingly span geographic regions (CHRISTOPHERSON, 2006; COE, 2000; LORENZEN, 2007; MOSSIG 2008). This raises an important theoretical and empirical question: How and to what extent do creative networks get attached to any particular region and what roles do intermediaries play in this process? By exploring this question we address what we call the 'dual problem' of network coordination and cluster development in increasingly inter-regional creative project industries. We argue that regional film offices serve as intermediaries that connect mobile creative professionals and boundary-crossing creative production networks to particular local settings and resources. In this capacity, film offices promote the development of new regional creative clusters on a project-by-project basis.

Using quantitative data on film production employment and projects in Massachusetts between 1998 and 2010, and qualitative data from interviews and press reports, we analyze the coordinating and connecting roles played by the Massachusetts Film Office as it acted as a regional institutional intermediary facilitating (and sometimes hindering) the development of local project ecologies (GRABHER, 2004). Our case shows that regional film offices engage in a diverse set of activities including marketing specific locations and service providers to producers; providing access to local labor pools, production settings and other resources; and, coordinating local public and industry representatives around the public policies related to regional film and television production.

Our findings help connect two parallel streams of research which have yet to be well integrated: regional cluster development, and project-based organizing. First, by showing how regional intermediaries link boundary-spanning project networks with more stationary local resources on a project-by-project basis, we provide a better understanding of the dynamics of new cluster development in creative industries (ROSENFELD and HORNYCH, 2010). Because of the project-based nature of creative industries, we find that regional intermediaries play an important role in attracting *projects* – rather than permanent investments – to particular regions thereby promoting 'temporary clustering' (BATHELT and SCHULDT, 2008) of mobile creative professionals with local resources. Over time, these project acquisitions may promote regional capabilities for attracting particular types of projects thereby affecting longer-term cluster development. By clarifying the roles that regional intermediaries play in this process, we add to a growing body of research taking a more dynamic perspective on regional attachment and the roles of institutions in this process (RYCHEN and ZIMMERMANN, 2008).

At the same time, we contribute and connect to the ongoing research on project-based organizing, career-making, and network-building in creative industries (*e.g*. JONES, 2001; STARKEY *et al*., 2000; LINGO and O'MAHONY, 2010; MANNING and SYDOW, 2011). Whereas most studies have either abstracted from questions of regional concentration (see e.g. LINGO and O'MAHONY, 2010; BURT, 2004) or focused on project-based organizing and career-making *within* particular regions (*see e.g*. SYDOW and STABER, 2002; GRABHER, 2002a, 2004), we show how project-based networks may co-evolve with the regional distribution of project settings. In particular, we highlight coordination and governance roles played by regional intermediary organizations as increasingly important network agents. We argue that the notion of project networks has to be extended by incorporating local settings and locally embedded service providers as network resources provided by regional intermediaries on a project-by-project basis. Our findings extend recent research on the network governance functions of intermediary roles in creative industries (FOSTER, BORGATTI and JONES, 2011; JONES, HESTERLY and BORGATTI, 1997).

We begin by discussing research on creative clusters in film and television production and argue that existing work tends to overlook how regional intermediaries attract creative projects to a particular region. Using the case of the evolution of the film and television industry in Massachusetts, we analyze the different roles played by the Massachusetts Film Office (MFO) as a regional intermediary organization. We then discuss implications of our findings for future research on cluster development and project-based organizing.

REGIONAL CLUSTERS, GEOGRAPHIC MOBILITY AND INTERMEDIARY ROLES IN CREATIVE INDUSTRIES

Creative industries like music, visual art, movies and television, have attracted the attention of organizational scholars because of their reliance on complex modes of project-based production, regional clustering, and socially embedded labor networks (e.g. STARKEY *et al*., 2000; GRABHER, 2002a, 2004; LINGO and O'MAHONY, 2010; MEYERSON *et al*., 1996; STARKEY, BARNATT and TEMPEST, 2000). These industries have been called 'project-based' because creative production typically happens in the form of projects where creative professionals (e.g. directors) and technical service providers (e.g. camera operators and film service companies) form teams for a limited time period to accomplish partially novel, creative tasks (OBSTFELD, 2012). After completion of each project, teams typically dissolve and re-enter the market as independent contractors (BECHKY, 2006; DEFILLIPPI and ARTHUR, 1998).

Scholars have identified social networks among freelance employees and regional clustering as two complementary factors that help coordinate this kind of project-based, creative work (FERRIANI *et al*., 2009; STARKEY *et al*., 2000; GRABHER, 2004). In particular, studies in the film and television industry have shown that in order to initiate projects and assemble teams on a regular basis, production firms rely on their ability to establish project-based ties with core team members and build up large complementary pools of freelance employees. These forms of networks have been called 'project networks' (MANNING, 2010; MANNING and SYDOW, 2011) or 'latent organizations' (STARKEY *et al*., 2000). Project networks serve as repositories of creative resources, trust, and collaborative practices and therefore help build up critical social capital that project entrepreneurs need to sustain their project business in a volatile market (FERRIANI *et al*., 2009).

Regional clusters – agglomerations of interconnected firms, communities, and related institutions (PORTER, 2000) – provide the conditions within which this social capital can flourish. Specifically, they are places where creative networks and professional communities can develop and sustain themselves beyond any particular project (GRABHER, 2002a, 2002b, 2004; SYDOW and STABER, 2002; SAXENIAN, 1996). Grabher (2004) uses the term 'project ecologies' to describe the project-centric nature of relationships between creative entrepreneurs and service providers in regional clusters. Hollywood in the U.S. and Bollywood in India are canonical examples of regional creative clusters that are characterized by vibrant communities and networks of artists engaged in numerous, overlapping projects (SCOTT, 2004a, 2004b; LORENZEN and TAEUBE, 2008).

In recent years, scholars have noted that the project-based careers of artists and other creative professionals increasingly span regions (CHAPAIN and COMUNIAN, 2010). This dynamic has also been recognized in the film industry, where producers have expanded their activities beyond established regional clusters like Hollywood in search of new shooting locations (*see e.g*. CHRISTOPHERSON and RIGHTOR, 2010; COE, 2000; VARNER, 2006). As a result, new 'satellite clusters' have emerged in the United States that have become important locations for Hollywood productions and are themselves becoming increasingly interconnected (*see e.g*., ROSENFELD and HORNYCH, 2010). Because most studies on film and television production have focused on regionally embedded labor markets and the supportive role of regional institutions in promoting the film-making *within* particular regions (*see e.g*. JOHNS, 2010), we know relatively little about the factors that stimulate or support inter-regional project-based production. Nor do we know how regional creative clusters may develop as creative projects and longer-term networks expand across regions.

In other words, we need to understand both how cross-regional project networks coordinate projects and creative professionals without the benefit of co-location, and how nascent creative clusters develop as mobile networks of creative professionals and service providers team up for projects in different regions over time. In addressing this dual problem of network coordination and cluster development in creative project industries, we propose that particular regional intermediary organizations play an increasingly important role in connecting mobile creative professionals in cross-regional project networks with more stable local service firms, locations, and employees over time, on a project-by-project basis.

Intermediary roles have been widely discussed in creative industry scholarship but have not received much systematic attention until recently (see e.g., BIELBY and BIELBY, 1999; FOSTER, BORGATTI and JONES, 2011; LINGO and O'MAHONY, 2010). As noted in the introduction to this special issue and in the many approaches within it, important questions remain about how best to define and understand intermediary roles in cultural industries. In this paper, we define intermediaries structurally as brokers who connect and/or coordinate otherwise disconnected others (BURT, 1992; LINGO and O'MAHONY, 2010). However, in that we adopt a project network perspective (GRABHER, 2004; MANNING, 2010) and recognize that brokers can play multiple roles that can evolve over time (FOSTER and OCEJO, forthcoming; LINGO and O'MAHONY, 2010), we are particularly interested in how regional intermediaries enact their roles in specific networks of creative production. In this sense, we join recent work using meso-level social network theory to explain how brokers search for, and select creative ideas (BURT, 2004; FOSTER, BORGATTI and JONES, 2011) and assemble teams for creative work (LINGO and O'MAHONY, 2010; MANNING and SYDOW, 2011).

In the film industry in particular, intermediaries like film academies, promotion agencies, art schools, and talent agencies have played important roles in promoting the growth of clusters such as Hollywood by providing services and resources to creative communities and production networks (*see e.g*. SCOTT, 2004a, 2004b; SYDOW and STABER, 2002). For example, film academies have the capacity to organize regular events (such as film festivals) thereby attracting and interconnecting creative professionals; film promotion agencies co-finance project ideas and facilitate connections among creative networks and distributors; film and art schools provide fresh talent and nurture network ties among young professionals within a region (see also JONES, 1996; SYDOW and STABER, 2002; LAMPEL *et al*., 2000; HIRSCH, 2000).

Other scholars have focused on the intermediary roles of creative producers and their capacity to bring creative professionals together, thereby benefitting from bridging structural holes (BURT, 2004), while also serving as facilitators for project collaboration (LINGO and O'MAHONY, 2010; OBSTFELD, 2005). However, most studies on intermediaries have focused on their activities *within* regional clusters and communities (e.g. GRABHER, 2004). By contrast, using the case of the Massachusetts film industry, we shift attention to new intermediary organizations – regional film offices – which have become important network hubs in times of increasing project activity *across* regions.

METHODS AND DATA

Because there has been relatively little research on how *regional* intermediaries connect film projects to local labor pools and resources, a multi-method inductive case study seems an appropriate first step in theory development (EISENHARDT and GRAEBNER, 2007). We thereby focus on the embeddedness of projects within longer-term project networks; examining longer-term sets of project-based relations between creative teams and flexible pools of service providers (STARKEY *et al*., 2000; WINDELER and SYDOW, 2001) and the embeddedness of these networks within fields of film production which increasingly span regional boundaries (SYDOW and STABER, 2002; MANNING, 2008). We show how changing field structures, in particular the emergence of tax incentives and regional intermediaries, affect how (and where) projects are initiated and project networks are established (see e.g., JONES, 2001 for this co-evolutionary perspective).

In addition, the introduction to this special issue has called for meso-level network studies that focus on the specific brokerage roles played by intermediaries at a given place and time). This study responds to these suggestions by adopting a project network perspective and triangulating among data sets at several levels of analysis (e.g., macro-economic wages and employment data, data on project networks and mixtures over time, and locations of service firms) to develop a detailed history of the development of the film and television industry in Massachusetts focused on its network properties and labor dynamics.

The data for this study were collected over 18 months between 2008 and 2009 and include both public and proprietary data sets, interviews with industry representatives, data on vendors and locations for 10 feature films shot in Massachusetts in 2008, and location information for all film and television productions in Massachusetts between 1998 and 2010. We describe each of these data sets in turn.

Public and private data sources

Data on national and regional employment are from the Quarterly Census of Employment and Wages for NAICS codes for film and television production (51211) and post production (51219). While these data may contain errors and omissions due to the undercounting of large numbers of mobile and freelance employees in this industry, they are the standard data used in economic analysis and are appropriate for exploring broad trends in national and regional employment.

We obtained data on the local service companies that were used by 10 feature films shot in MA in 2008 from local union representatives who interviewed key tradespeople about the local businesses they used. Although these data may contain errors caused by incorrect recollection and do not include the amount spent at each vendor, short of obtaining actual film production accounts, these are the most detailed records of the local spending patterns of feature films available. We use these data in two ways. First, we geocoded the vendor locations and used ArcGIS to identify the regional concentration of feature film non-wage spending patterns. Second, we treated these data as a bipartite network of ties between 8 feature films and their vendors and used UCINET (BORGATTI, EVERETT and FREEMAN, 2002) to identify clusters in the selection of local vendors.

We obtained data on film and television production locations in Massachusetts between 2000 and 2010 from the Massachusetts Film Office (MFO). We imported these data into UCINET (BORGATTI, EVERETT and FREEMAN, 2002) as a bipartite network of films and partitioned it into three time periods corresponding to important turning points in the history of the regional film and television industry. We use these data to identify connections among regional incentives, the activity of regional intermediaries, and the density of local production networks.

Interview data

To collect more nuanced information on the history and development of the Massachusetts film and television industry and the role the MFO played in this process, we spent 12 months interviewing representatives of the MFO, the Massachusetts Office of Business Development, the Massachusetts Office of Travel and Tourism, and the Massachusetts Department of Revenue as well as dozens of industry representatives. To understand the unionized section of the workforce, we interviewed officials at the International Alliance of Theatrical Stage Employees (IATSE), the International Brotherhood of Teamsters (IBT), and the Screen Actors Guild (SAG). To better understand the commercial, cable television and other non-unionized sectors of the industry, we spoke to executives at three of the largest commercial production companies in the state, several film service and payroll companies, a local post production house and casting agency and the largest non-fiction cable television producer in the state. To better understand the regional tax incentive program, we interviewed a Hollywood producer who was instrumental in its founding, one of the most active film industry tax accountants in the state as well as a representative of the largest tax credit broker in the state.

During this time we also spoke regularly with representatives of the Massachusetts Department of Revenue to understand their data collection and economic impact modeling approaches. To better understand the local independent and documentary film production sector, we interviewed the three fiscal agents (Center for Independent Documentary, Filmmakers Collaborative, and Documentary Educations Resources) that sponsor the vast majority of the documentary film projects in the state as well as six documentary film makers and a representative of PBS (the local public television affiliate). To understand the importance of infrastructure development and studio complexes in particular, we interviewed two Hollywood executives with plans to develop a studio complex in Massachusetts and also spoke regularly to local state officials and industry representatives about these issues. To understand the location choices of out of state productions and the nuances of on-location shooting, we interviewed both out of state and local executive producers, line producers, production managers and location scouts and conducted dozens of informal meetings and discussions with local cast members and crew about their experience working in the state. These interviews, as well as published news reports, provided much of the material and examples in the case of Massachusetts.

Project mix and spending patterns

We obtained data on the mixture and spending patterns of 556 film and television projects shot in Massachusetts between 2006 and 2010 from published reports by the Massachusetts Department of Revenue (PITTER, 2011). These data are extremely valuable because they are based on the audited financial records of productions that apply for the state tax credit. Because most commercial productions (and all Hollywood productions) apply for this credit, these data represent the most granular and accurate information on regional film and television employment patterns in Massachusetts. Due to confidentiality requirements, the Massachusetts Department of Revenue is not allowed to share their raw data. Nevertheless, their public data contain some important information about how the project mix in a region is related to local spending patterns.

REGIONAL ALLOCATION OF FILM AND TELEVISION PRODUCTION AND THE CASE OF MASSACHUSETTS

The film and television industry has historically been associated with a geographically concentrated, oligopolistic structure, and the motion picture industry in particular has been dominated by a small number of Hollywood studios (CHRISTOPHERSON and STORPER, 1986; CURRAH, 2007; STORPER, 1989; SCOTT, 2002, 2004a, 2004b). Although film production has always been a project based industry, for the first half of its history, projects were managed by a small number of vertically integrated studios that controlled almost all aspects of film production, distribution, and exhibition. Until the early 1950s, the Hollywood studio system relied on long term contracts and large, vertically integrated production, distribution, and exhibition systems. Several events led to a shift in this system beginning in the 1940s and an increased reliance on short term contracts among networks of freelance employees and small film service companies (for more detailed discussions of this transformation see CAVES, 2000: 87-102; CHRISTOPHERSON and STORPER, 1989).

The financing and distribution of films and many television shows is still controlled by a small number of Hollywood studios (VOGEL, 2007; CURRAH, 2007; SCOTT, 2004a, 2004b). However, the actual production of films and television shows now takes place through decentralized networks of freelance labor pools and specialized service organizations that are assembled on a project-by-project basis and are often coordinated by central actors like independent film production studios (STARKEY *et al*. 2000; WINDELER and SYDOW, 2001; SCOTT, 2002, 2004a, 2004b; CHRISTOPHERSON and STORPER, 1986, 1989). Thereby, regional concentration and co-location of film industry players has helped flexible specialization and the emergence of networks as organization forms to effectively replace vertically integrated production systems (STORPER and CHRISTOPHERSON, 1987)

Beginning in the late 1990s, and continuing through the 2000s, the proliferation of regional incentive programs in the Canada and the United States (as well as technological, legal and financial changes) led to the growth of film and television production clusters in Vancouver and Toronto in Canada and in states like Arizona, Louisiana, Michigan, Massachusetts, New Mexico and many others in the United States (CHRISTOPHERSON and RIGHTOR, 2010; LORENZEN, 2005). As a result, the filming of studio films and major television programs increasingly takes in 'satellite' clusters which now co-evolve and partly compete for projects with the traditional clusters in Hollywood and New York (COE, 2000; CHRISTOPHERSON, 2006; SCOTT, 2002, 2004a, 2004b). Coe (2001) refers to this trend in terms of 'offshore location shooting' which has not only affected the development of traditional clusters (SCOTT, 2002) but also entails development potentials for new clusters.

The net impact and sustainability of these new clusters remains a contested issue among scholars and policy makers alike (CHRISTOPHERSON and RIGHTOR, 2010; POPP and

PEACH, 2009). Although we do not address these issues directly, there is some excellent work on these issues (see e.g., WEINER 2009a, 2009b), some of which focuses on Massachusetts in particular (PITTER, 2011). Instead, we turn our attention to the less examined intermediary roles played by regional film offices in this process of cross-regional expansion of film projects. The emergence of new production clusters outside of New York and Hollywood provides a useful case study on the intermediary roles played by regional film offices that both administer incentive programs and connect emerging clusters to film project networks via direct marketing and professional networks.

Most importantly, the proliferation of new filming locations allows us to explore how creative work is organized when it becomes disconnected from singular geographic clusters and what role local intermediary organizations play in this process. Because these new clusters – as we see later on – solicit series of projects rather than conventional ‘industry investments’, it is important to not only understand regular activities of intermediaries promoting project acquisitions, but also the role of variation in project types and mixtures affecting regional creative cluster development. Regional occupational (COE, 2000; FLORIDA, 2002; MARKUSSEN, 2004) and project network (GRABHER, 2004; MANNING, 2010) approaches seem particularly appropriate for these purposes.

After briefly describing the growth of the film industry in Massachusetts between 1998 and 2008 using federal data on employment and wages as well as project level data published by the Massachusetts Department of Revenue, we offer a nuanced case study of the MFO as a regional intermediary and argue that changes in the governance and activities of this office closely parallel regional production activity during the same period. We conclude with a discussion of the implications of this case for existing research on creative clusters and brokerage processes in creative industries more generally.

The evolution of the Massachusetts film and television industry: 1998-2010

Examining data on aggregate film and television production activity in Massachusetts between 1998 and 2010 (Table 1 below) shows that employment increased from 1,736 to 2,164 in NAICS 51211 (motion picture production), but fell from 371 to 196 in NAICS 51219 (post-production) after briefly peaking at 840 in 2008. While these are clearly small numbers compared to the much larger local employment in sectors like health care and financial services, precisely because of the small base rate in the film and TV sector, relatively small changes (often driven by the specific project mix at a given time) can have a proportionally large effect total employment in the local film and television industry.

Insert Table 1 about here

While Table 1 *seems* to show an increase in employment following the implementation of the incentive program in 2006, a closer examination reveals that the increase did not really begin until 2008, two years after the implementation of the incentive program. For a highly dynamic industry in which location decisions can be changed within months if not weeks, this delay seems surprising. More importantly, if we examine the period before the tax incentive (1998-2005), we find a significant decline in film industry employment over that period. Although employment in post-production (NAICS 51219) was relatively stable, employment in production dropped from

1,736 in 1998 to a nadir of 1,124 in 2005. Data from the MFO corroborate these macro-economic employment data and show that the total number of productions taking place in Massachusetts fell between 1998 and 2004 and remained relatively low until 2007 when it doubled from the previous year.

This macro level perspective has been used by local industry representatives, policy makers, and the MFO itself to argue that the implementation of the tax incentive program in 2006 contributed to the growth in film and television production in the following years. However, this argument does not explain the dramatic decline in film and television employment between 1998 and 2005 and the delay in the impact of the tax incentive program until 2008. The activities and governance structure of the MFO during this period provides important clues about the decline in production prior to the incentive and the delay in impacts after its implementation. In particular, the case suggests that the intermediary roles played by the MFO seems to have affected the regional project mix over time and helped connect projects to specific resources like vendors networks that are clustered around particular shooting locations.

The evolution of the Massachusetts Film Office (MFO): 1979-2010

The MFO was opened in the mid-1970s and by 1979, was receiving significant state funding for the purpose of marketing Massachusetts as a location for national film and television productions. Even in the 1980s, marketing Massachusetts to Hollywood productions was a complex endeavor that required coordinating high level state officials, union leaders, and other local industry representatives and connecting them with national project networks. For example, in November 1984, Governor Michael Dukakis was joined by Boston Pops conductor and film composer John Williams and actors Robert Urich and Robert Stack (from *Spencer for Hire*) at a fancy Beverly

Hills restaurant to pitch industry executives on filming in Massachusetts (BLOWEN, 1990). These kinds of events are designed to market Massachusetts (and even specific locations within the state) to Hollywood decision makers and have been coordinated by the MFO and taken place under every state administration and MFO director.

Between 1994 and 2002, the MFO was run by Robin Dawson, who continued to develop ties with creative talent in Hollywood, solicited specific productions, and helped these productions identify suitable filming locations and other local resources. During this period, the provision of free public facilities (like a closed state hospital) for locations was one of the features that made Massachusetts attractive to out of state productions. Before the implementation of the film tax credit in 2006, the primary role of the MFO was marketing Massachusetts to out of state productions and helping them identify suitable locations and local resources once they arrived.

The 2000s began as the previous decade had, with public conflicts between local unions and Hollywood productions regarding illegal activity conducted by members of Teamsters Local 25. Not only was Massachusetts seen by out of state producers as having labor problems, in 2002 the MFO was closed amid a firestorm of controversy involving accusations of political vendettas and federal investigations of the Teamsters. For a period of two years, the activities of the MFO were conducted by a privately funded, not-for profit organization that was not formally an office of the State of Massachusetts.

Two years later, Governor Mitt Romney created a quasi-public agency called the Massachusetts Sports and Entertainment Commission and gave it the official mandate to represent Massachusetts to out-of-state film productions. With this decision, two different offices were now competing for the same role. As a result of this local conflict and governance challenge, network ties with Hollywood projects became confused and strained. Hollywood producers with close ties to the state (like Matt Damon) publicly complained that it was unclear to industry members who to communicate with about filming in Massachusetts. The problem finally came to a head over location scouting for a Martin Scorsese's Boston-based film *The Departed*, for which both offices claimed responsibility.

In addition to exposing the problem with having two different offices representing Massachusetts to out of state productions, the *Departed* project also alerted local policy makers to the growing inter-regional competition for Hollywood film projects. When legislators realized that despite being set in Boston, *The Departed* only spent $6M of its $42M budget in Massachusetts, they joined industry representatives to lobby for a tax incentive program which was passed in 2006. The program originally provided a 20-25% credit for qualified production expenses, but because it was capped at $7M per production, it was of limited value to larger budget feature films. In 2007, the MFO was formally reconstituted and appointed the sole representative of the Commonwealth of Massachusetts with the national film industry.

Shortly thereafter, industry representatives successfully lobbied for removal of the $7M cap from the tax incentive program to make it more attractive to large Hollywood productions. With the cap removed, the MFO was able to market Massachusetts locations, crew and service companies to bigger budget Hollywood feature films. They also began working with local and national industry representatives on longer term needs for developing the cluster (particularly studio features and dramatic television), which would require new infrastructure (e.g., a studio complex), new service companies (especially catering and specialized equipment rental companies) and workforce development initiatives.

Although the tax incentive was credited by industry representatives with increasing local production activity and generating new jobs and spending, analyses by the Massachusetts Department of Revenue suggested that it may be costing more than it was generating in new tax revenues. As a result of this analysis and concerns raised by some members of the legislature, in 2010 Governor Deval Patrick's administration proposed legislation to once again cap the program. The MFO and industry representatives opposed this cap, arguing that it would drive away large Hollywood productions just as the industry was re-establishing connections with out of state production and memory of the local labor conflicts in the 1990s and 2000s was finally fading. During this period, one of the most widely reported potential studio development projects, Plymouth Rock studios, was the subject of a scathing investigative piece by the Boston Globe (ALLEN and BOMBARDIERI, 2009), contributing to concerns about the long term viability of this cluster among some opponents.

In the end, although the legislature did not pass the proposed cap, the uncertainty led studio features to seek other locations and exposed two of the less recognized roles played by regional film offices -- serving as conduits of nuanced information about regional policy and industry developments to key contacts outside the state, and translating these interests back to regional policy makers and public officials. When industry members in Hollywood heard about the impending cap before the MFO had been able to warn them, they publicly criticized an email on the subject as "reading like an obituary" for the Massachusetts film industry. Later that year, the MFO was reconstituted as a public agency run by the Massachusetts Department of Travel and Tourism and a year later, a new director was hired to run it. Table 2 summarizes the key events in this evolution.

Insert Table 2 about here

This narrative suggests several important roles that have been played by the MFO in the evolution of the local film and television industry. Its primary function has clearly been to market Massachusetts as a location to out of state productions. Within that role, it seems that the office has also engaged in marketing specific shooting locations and even using locations themselves as incentives. The narrative also suggests that the governance of this office (whether private or public) and its ability to coordinate local resources and connections with out of state productions affects the regional project mix over time and network ties with out-of-state projects. We turn to an exploration of the regional project mix and sub-regional spending and location choice patterns to explore these factors.

The effect of project mix and production types on regional spending patterns

Because film and television projects differ dramatically in their budgets, numbers of employees, and proportion of local spending, regional employment trends and net economic impacts may be affected by both the type and mix of projects coming into a given region. Data from the most recent analysis of the Massachusetts film and television industry conducted by the Massachusetts Department of Revenue (PITTER, 2011) allow us to examine the effects of project mix on regional non-wage spending and employment in some detail (Table 3). Table 3 shows that the total number of productions peaked in 2008 and then dropped in 2009 and again in 2010 with feature films showing the greatest volatility. A feature film shooting in Massachusetts might employ hundreds of people for weeks at a time and spend tens of millions of dollars on various combinations of highly paid out of state employees (typically star actors), local and out-of state below-the-line employees, and service firms. As a result, these projects can have a disproportionate impact on local cluster development through both wage and non-wage spending patterns. Television commercials, by comparison, might have a local production budget of $250,000 and employ a handful of actors and crew paid at standard union (or industry wages). This suggests that the aggregate project mix in a region plays an important role in cluster development.

Insert Table 3 about here

During most of the 2006-2010 period covered by Table 2, project spending was divided roughly one third/two-thirds between Massachusetts and non-Massachusetts expenditures. However, when feature film production dropped in 2009 and 2010, not only did total spending fall rapidly, but the proportion of spending on local employees and establishments increased from 33% to 63%. This suggests an important potential relationship between project mix and local employment trends that has largely been overlooked by academics and policy makers.

Because studio features typically include highly paid out of state employees and also tend to have very large budgets, they both capture large proportions of regional incentives and may return less in the form of local spending on wages and jobs than smaller productions. As discussed above, one of the most important and long standing roles played by the MFO has been attracting national projects to Massachusetts. If the specific mixture of projects in turn impacts the proportion of wages and non-wage spending that goes to local vs. non-local employees and service firms as suggested by Pitter (2011), then the specific marketing activities of these regional film offices may play a hitherto unrecognized role in regional spending patterns via the impact on the overall regional project mix (e.g., the mix of studio features, TV shows, commercials, etc.).

Regional spending patterns and the importance of location marketing

Another important role played by regional film offices is in helping national productions find suitable locations. Indeed, it was precisely the conflicts over location scouting for the Martin Scorsese film *The Departed* that illustrated the problem with having two different agencies competing to market Massachusetts to Hollywood productions. The importance of this role relates directly to the value and total costs of locations for Hollywood productions in particular. Recent analyses (MASSACHUSETTS DEPARTMENT OF REVENUE, 2009; PITTER, 2011) show that location fees represent the largest component of local non-wage film spending. According to the Massachusetts Department of Revenue (2009:8), 36% (e.g., $247M) of the total film industry spending in the Commonwealth between 2006 and 2008 was on non-wage items. The largest categories of these items were location fees ($56.8M), transportation ($35.8M), fringe benefits ($33.5M), hotels and housing ($29.3M), set construction ($27.2M) and food ($17.7M).

Interviews with industry representatives suggested that a large proportion of this spending is clustered around filming locations and can represent a significant source of revenue for local businesses. Because location marketing is a central function of the MFO and location costs represent a large proportion of local spending for out of state productions, we analyzed the spending patterns of 10 feature films in 2008. Figure 1 represents a network analysis of the vendors used by 10 Hollywood features filmed in Massachusetts in 2008. In the diagram, films are represented as white squares and the local businesses they used for material and services are represented as black circles. The size of nodes represents the number of films that each vendor serviced.

Insert Figure 1 about here

This analysis clearly shows two dynamics in the non-wage spending patterns in the local film industry. First, the clusters of larger black circles surrounding the films represent the rapidly growing core of vendors that provide specialized services like camera and crane rentals to film and television productions. In addition to traditional film service companies, this core also contains less specialized vendors like furniture and car rental companies, grocery stores and hair and makeup schools. These trends suggest that there is a growing cluster of local film and television service firms emerging in response to the increased project-based activity in the region. Second, in addition to relations with a core set of service firms that are shared among many films, each film also maintains a cluster of unique vendors that are not shared with other firms. A closer examination of these unique vendors shows that they include a diverse array of retail outlets, local restaurants, and service providers that seem to be driven by the idiosyncratic shooting locations chosen by each project.

Plotting the addresses of the vendor list on a map (Figure 2) shows that while non-wage spending is located primarily in the eastern half of the state (particularly in Boston), it also seems to be concentrated in the places that filming took place. This makes sense given the rapid pace and logistical and material requirements of these productions while they are on-location. Film and television productions are material intensive and often require rapid service from local vendors.

For example, costumes usually come in duplicate and often need to be laundered overnight. This kind of work is typically done by vendors that are located near shooting locations.

Because film and television productions have high labor costs that are often governed by labor contracts with strict overtime rules, delays can be extremely costly. As a result, productions are sometimes required to make unexpected expenditures at local vendors to keep working. One local Assistant Producer described a production that spent over $4,000 at a small local sporting goods store to buy rain gear so that the crew could keep working through an unexpected storm. Another reported that a television commercial that was made in 2008 spent over $1,000 on body bags for a scene. While such expenditures may not represent a large proportion of the total spending for a large production, they can represent significant revenue streams for local merchants. If some proportion of non-wage spending is driven by sub-regional location choices, there may be an important and overlooked relationship between the marketing and promotion activities of RFOs and the eventual geographic distribution of non-wage spending of film and television production in a given region.

Insert Figure 2 about here

Given the important role that the MFO played in helping productions identify locations, we examined the bipartite networks of ties between film and television productions to explore whether location choices were affected by changes at the MFO and to identify sub-regional clustering in location choices that could help explain the geographic distribution and idiosyncratic selection of vendors identified in Figures 1 and 2. To explore patterns in location selections, we used a complete list of projects and locations from 1998 – 2010 from the MFO. Treating these data as bipartite project-by-location networks, we partitioned them into three time periods reflecting the major changes in the status of the MFO and tax credit and diagramed them using the visualization program NetDraw. Figure 3 compares these film-by-location networks with annual data on the total number of productions in the state, annual employment in NAICS 51211 (film and television production) and 51219 (post production) annual average employment and the status of the MFO and tax incentive. When we examine all these data together, the status of the MFO seems to be closely related to changes in the total number of projects, employment, and the density of project location networks.

Insert Figure 3 about here

In the first period (1998-2001), the film office was open and being run as a public agency. The average number of annual productions during that period was 14.75 and average employment in film and television production (NAICS 51211) remained above 1,600. Beginning in 2002, the year that the MFO was closed and continuing until the passage of the Film Tax Credit in 2006, the average number of annual productions fell to 3.25 and employment in film and television production fell to a low of 1,124 in 2005. In 2007, despite the passage of the tax incentive the year before, employment had only grown to 1,299 with nine productions filming in the state that year. In 2007, the MFO was formally reopened and the cap on the tax credit was removed. The next year, there was a dramatic increase in production activity with 16 productions and employment in film production rising to 2,439. While it is impossible to disentangle the impact of the changes in the tax incentive from the changes in the activity of the MFO (particularly because the MFO was one of the primary actors lobbying for changes in the incentive), it seems that that the combination of an active MFO and the passage of an incentive program combined to stimulate local economic activity and rebuild the networks of ties among productions and locations that had been damaged during the closure of the office.

Examining the networks of projects and locations during these periods shows the dramatic impact that the closing of the film office had on location selection decisions. The changes in the density and clustering of the location networks across these three periods illustrates how changes in the activities of the MFO impacted the number of projects that were attracted to the region, the resulting employment from these projects, and the location choices of the projects. It is also interesting that in each network, the most central location is in Boston, but in all cases there are several idiosyncratic location choices depicted by the peripheral nodes and small components surrounding the central cluster in Boston. This pattern helps to confirm that the sub-regional clustering of vendors shown in Figures 1 and 2 above is indeed related to project location choices. Because these location choices are so important to the sub-regional distribution of spending in the film and television industry, the role that film offices play in linking national projects with specific locations seems to be a critical overlooked factor in the development of regional creative clusters in dynamic, project-based industries.

DISCUSSION

The objective of this study has been to investigate, in the face of increasing expansion of film production beyond particular regions, how and to what extent creative networks get attached to any particular region and what roles intermediaries play in this process? More specifically, we have identified how regional institutional intermediaries attract networks of increasingly mobile creative professionals to a particular region on a project-by-project basis. Empirically, we have focused on the regional film office in Massachusetts, which has played a key role in attracting film and television projects to the state and in establishing ties between the regional economy and creative project networks that span geographic boundaries.

Our empirical case suggests that regional film offices engage in a diverse set of activities including: (1) marketing their locations to national film and television productions; (2) connecting national productions to local labor pools, locations, and other production resources; (3) connecting national productions to other public agencies for access to permits, police, and fire details and other public resources; (4) providing information to national productions about tax (and other) local incentive programs; (5) coordinating regional industry actors and lobbying for specific economic policies; (6) coordinating local public and industry representatives around the development and implementation of incentives and other policies. Activities (1) through (4) focus on attracting and assisting particular projects, whereas activities (5) and (6) concern the promotion of longer-term favorable conditions for film production.

Importantly, regional film offices do not automatically become regional intermediaries just by fulfilling their state mandate – administrating and allocating tax incentives and other state budgets for film production. In fact, the case of Massachusetts shows how regional film offices differ over time in their ability to effectively attract film projects – whether or not state tax incentives are in place. Indeed, it remains an open question whether and how nascent regional film and television production clusters can become sustainable over the long term. Effective acquisition of projects results from active and reflective intermediation, which not only involves the promotion and marketing of location benefits to potential production firms, but also the ongoing bundling and pooling of local resources to make them available on demand, and careful selection of projects based on potential financial benefits for the region and matching with local capacities and location advantages. We suggest that variations in the activity and governance of regional film offices may play a role in the development of nascent film and television clusters.

Importantly, unlike business promotion agencies, regional film offices do not focus on promoting permanent local investment as much as on the ongoing acquisition of temporary projects and project participants. Although many project teams leave the region after a particular production is completed, their presence enhances the skill base and 'employability' of the local labor force and helps develop the local support services necessary for future projects. The activities of regional film offices in attracting projects and promoting specific locations helps to shape networks among projects, specific locations, vendors, and employees, and affects the geographic distribution of 'project ecologies' (GRABHER, 2004) and latent networks (STARKEY *et al*., 2000) that characterize these industries. Over time, regional intermediaries help establish longer-term, project-based ties between mobile project participants from *outside* a local cluster with more stationary businesses *inside* a cluster.

By highlighting the role of regional intermediaries in connecting dynamic project networks with local resources and specific locations, our findings connect and extend two streams of research that have not traditionally been in communication: regional cluster development, and project-based organizing.

First, by focusing on the roles that the MFO played in linking trans-regional projects with local resources, we provide a better understanding of the dynamics of cluster development in creative industries (ROSENFELD and HORNYCH, 2010) and the dynamics of regional attachment (RYCHEN and ZIMMERMANN, 2008). Specifically, because regional creative industries are actually comprised of project ecologies, we suggest that regional intermediaries play an important role in attracting *projects* to particular regions thereby connecting them with local knowledge and resources. As creative industries expand outside traditional clusters and particular regions (see e.g. LORENZEN, 2007; CHRISTOPHERSON, 2006), their characteristic of ‘temporary organizing’ around particular projects increasingly coincides with ‘temporary clustering’ of project participants within particular regions.

The notion of ‘temporary clusters’ captures how events become magnets for professionals and businesses at a particular point in time (MASKELL *et al*., 2006; BATHELT and SCHULDT, 2008). Similarly, in the early development of the Massachusetts film cluster, ‘temporary clustering’ occurred every time film offices connected creative professionals from outside the region with local organizations like film service firms and local settings on a project-by-project basis. As film offices continue to attract projects, however, this ‘temporary clustering’ effect may evolve into a more sustainable set of project-based relationships that emerge around specific production locations and supportive vendor networks. Although the specific trajectories, costs and benefits of developing these nascent clusters clearly remains a question for future research, longer-term ‘collaborative paths’ (MANNING and SYDOW, 2011) may indeed develop between creative producers and their networks *outside* an emerging cluster with local resources *inside* the cluster on a project-by-project basis, where regional intermediaries help connect projects along such paths. Intermediaries thereby help develop and nurture regional resource bases and capabilities in attracting particular types of projects.

Over time, locality and embedded businesses become important anchors for repeated production, which in turn creates local spill-over effects in the form of continued employment and promotes future opportunities for regional and national producers. However, unlike traditional film and television production clusters, like Hollywood, which seem to rely on long-term capital investments in studio systems and supporting institutions to generate steady agglomeration effects (see also SCOTT, 2002), satellite clusters rely much more on flexible, project-based accumulation of financial and social capital through intermediaries, thereby overcoming structural weaknesses of small, late-comer clusters (see e.g., COLE, 2008 for an example from the European animation film industry). We invite future studies to explore the factors that might enable satellite clusters in film to generate project opportunities and thereby grow project ecologies in a sustainable way.

At the same time, we contribute to the ongoing research on project-based organizing, career-making and network-building in creative industries (*e.g*. JONES, 2001; STARKEY *et al*., 2000; LINGO and O'MAHONY, 2010; MANNING and SYDOW, 2011). Whereas most studies have either abstracted from questions of regional concentrations (see e.g. LINGO and O'MAHONY, 2010; BURT, 2004) or focused on project-based organizing and career-making *within* particular regions (*see e.g*. SYDOW and STABER, 2002; GRABHER, 2002a, 2002b, 2004), we have shown how project-based networks may co-evolve with the regional distribution of project settings.

In particular, we have highlighted the coordination and governance roles played by regional intermediary organizations as increasingly important network agents. We argue that the popular notion of project networks – in terms of longer-term sets of project-based relations between project entrepreneurs, creative professionals, and technical service providers (see e.g. WINDELER and SYDOW, 2001; STARKEY et al., 2000; FERRIANI et al., 2009; MANNING, 2010) – has to be extended by incorporating local settings and locally embedded service providers as network resources provided by regional intermediaries on a project-by-project basis.

Thus, our findings also contribute to research on the network governance functions of intermediary roles in creative industries (FERRIANI et al., 2009; LINGO and O'MAHONY, 2010; FOSTER, BORGATTI and JONES, 2011; JONES, HESTERLY and BORGATTI, 1997). Whereas producers as brokers focus on initiating ideas (BURT, 2004) and on assembling teams around the accomplishing of particular tasks (see e.g. STARKEY *et al*., 2000; LINGO and O'MAHONY, 2010), film offices further facilitate and influence this process by 'pooling' and 'selecting' potential project sites on behalf of film producers as well as regional representatives. Their effectiveness in these roles is impacted by their institutional mandates, governance structure and ability to coordinate with other public agencies and to interpret their role as a proactive facilitator of collaboration rather than a simple gatekeeper of information. In a similar fashion, such intermediaries can become important in other project industries and fields, e.g. for selecting sites for particular infrastructure projects; or for selecting locations for conferences; or for selecting accommodations and stadiums for sports events. However, in the case of regional film offices, because film projects are so location specific, their impact in connecting productions and specific locations plays a particularly important role.

This study is limited by the fact that it focuses on the film and television industry and one particular state and its film office. While researching the industry, we have seen the actions of various film offices in other states, and there is substantial variance in the level and sophistication of the intermediary activities in which they engage. Further studies should try to identify whether this variance in activities leads to variance in project-based industry performance, ceteris paribus. Further, even in Massachusetts it has been difficult to separate the influences of the tax credit from the effects of film office interventions and other regional economic factors. Future studies using longitudinal data from a number of states with film activity would be useful for more precisely identifying those intermediary activities that are most successful in expanding regional economic development.

The interplay between policy decisions, location decisions of film producers, and the role of film offices in facilitating or hindering the successful execution of tax incentive plans could be elaborated in future studies by focusing more on the interactions and negotiations between different stakeholders. Finally, as film and media production is becoming more digitalized and globalized (see e.g. WINSECK and JIN, 2011), the impact of offshoring of separable production and post-production processes, such as animation and special effects, on regional clustering has to be better understood (see e.g. for the case of animation, COLE, 2008). New intermediaries such as specialized internet platforms along with specialized providers of more post-production services may play an important role.

Another limitation is that our conclusions about the role of regional intermediaries in connecting project networks to local resources are drawn entirely from the film and television industry. Future research could also explore other empirical cases in project-based industries, such as the event organizing business, construction and academic research, which show similarities not just in terms of the importance of project-based forms of organizing, but also in the increasing geographic span of their activities. For example, the organization of annual academic conferences typically happens in different locations over time thereby linking long-term project expertise with particular local resources. Particular organizations, such as 'anchor universities', might serve as important regional intermediaries in this process. Also, whereas our study treats film and television production as one industry field (based on similar ways of organizing projects and assembling teams), future studies may focus on particular differences between feature film and TV production, such as the serial nature of many TV projects. We would assume that serial productions generate longer-term attachments to particular locations, whereas dependence on feature films requires more flexible acquisition strategies and a broader set of local resources that can be applied to multiple project contexts.

In conclusion, our study emphasizes the importance of geographic mobility in creative project-based industries, which has important implications for the development of geographic clusters, and the organization of project-based work. We show that, as careers and networks of creative professionals increasingly span geographic boundaries, regional intermediaries can become important agents in establishing longer-term, project-based connections between mobile professionals and local organizations and resources. In doing so, they help strike a balance between the increasing need of creative professionals and project entrepreneurs for geographical flexibility and mobility between projects, and their continuous need for locally embedded project resources. Our study invites rethinking the meaning of geographic clustering in creative industries as a project-based and contingent process of establishing temporary and longer-term linkages, and the role of regional intermediaries as boundary spanners and bridging agents not just within, but across regional boundaries.

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TABLES AND FIGURES

Table 1: Annual establishments, employment, wages and productions: 1998-2010

Average Annual Establishments	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Motion picture & video production (51211)	319	316	326	311	308	293	297	297	272	273	298	287	295
Postproduction & other (51219)	34	31	35	36	33	30	30	32	28	30	31	32	29
Annual Average Employment													
Motion picture & video production (51211)	1,736	1,621	1,836	1,753	1,471	1,285	1,187	1,124	1,295	1,299	2,439	2,672	2,164
Postproduction & other (51219)	371	301	351	282	379	230	318	371	247	803	840	236	196
Annual Average Wages													
Motion picture & video production (51211)	42,840	45,453	50,103	50,700	48,624	51,370	54,415	57,695	60,527	60,598	61,225	53,051	41,033
Postproduction & other (51219)	31,648	39,477	46,471	49,301	30,932	49,953	35,728	34,953	51,986	18,086	19,437	63,904	72,144
Film and Television Productions	10	20	16	13	5	4	2	3	4	9	16	17	12

Source: Quarterly Census of Employment and Wages; Massachusetts Film Office

Table 2. Massachusetts Film Industry and Film Office History

1979 – Massachusetts Film Office (MFO) founded

1984 – Gov. Dukakis along with Boston Pops conductor and Hollywood composer John Williams and actors Robert Urich and Robert Stack from *Spencer for Hire* pitch industry executives on filming in Massachusetts.

1990 - Conflicts with unions drive a Richard Dreyfuss production to North Carolina, generate bad press and rekindle Boston's reputation as a town with a film industry labor problem.

1994 - Robin Dawson appointed Director of the MFO and is credited with soliciting large productions industry in the late 1990s.

2002 – (Summer) MFO closed due to lack of funding and amid public controversy. (Fall) Robin Dawson opens the privately funded Massachusetts Film Bureau with support from the industry and local film service companies who want to maintain connections with Hollywood.

2004 – Gov. Mitt Romney appoints Mark Drago the director of the Massachusetts Sports and Entertainment Commission which is given the mandate of attracting film business to Massachusetts.

2005 – Competition among two non-profits marketing Massachusetts locations generates bad press and confusion among Hollywood executives and actors.

2006 – Massachusetts Film Tax Incentive passed with a cap of $7M per production.

2007 – MFO is formally reconstituted as the sole representative of the State of Massachusetts with the national film industry.

Legislature removes the $7M cap and the newly reconstituted MFO begins active marketing to Hollywood productions and promotion of Massachusetts locations, crew and film service companies.

2010 – MFO opposes proposed legislation to cap the film tax credit that it is supported by Gov. Deval Patrick. MFO director is fired and the MFO is reconstituted as the Massachusetts Marketing Partnership, a public agency run by the Massachusetts Department of Travel and Tourism.

Table 3: Project level data 2006-2010

	2006	2007	2008	2009	2010	2006-2010
Project mix						
Feature Films	7	14	20	13	6	60
Commercials/Advertising	45	53	86	51	51	286
Television Series	26	29	28	21	14	118
Documentaries/Other	17	26	25	12	12	92
Total projects	95	122	159	97	83	556
Wages ($ amounts in millions)	$43.50	$111.10	$304.90	$203.60	$29.10	$692.20
Wages $1 Million & Over	*	*	$133.60	$82.00	*	$264.90
Wages Under $ 1 Million	*	*	$171.30	$121.60	*	$427.30
Non Wage Spending						
Set Construction	$1.20	$4.70	$23.70	$19.10	$1.50	$50.20
Location Fees	$9.30	$10.50	$42.10	$36.60	$8.40	$107.00
Unclassified/Other	$30.80	$30.10	$109.40	$74.10	$19.30	$263.70
Total Spending	$84.80	$156.50	$480.20	$333.40	$58.30	$1,113
Of Which Spent on:						
MA Resident/Business ($)	$29.90	$46.60	$153.00	$108.40	$36.70	$374.60
Non-MA Resident/Business ($)	$54.90	$109.90	$327.20	$224.90	$21.60	$738.50
MA Resident/Busines (%)	35%	30%	32%	33%	63%	34%
Non-MA Resident/Business (%)	65%	70%	68%	67%	37%	66%

Source: Massachusetts Department of Revenue * Data not presented

http://www.mass.gov/dor/docs/dor/news/2011filmincentivereport.pdf

Figure 1: Bipartite project x vendor networks for 10 feature films shot Massachusetts in 2008

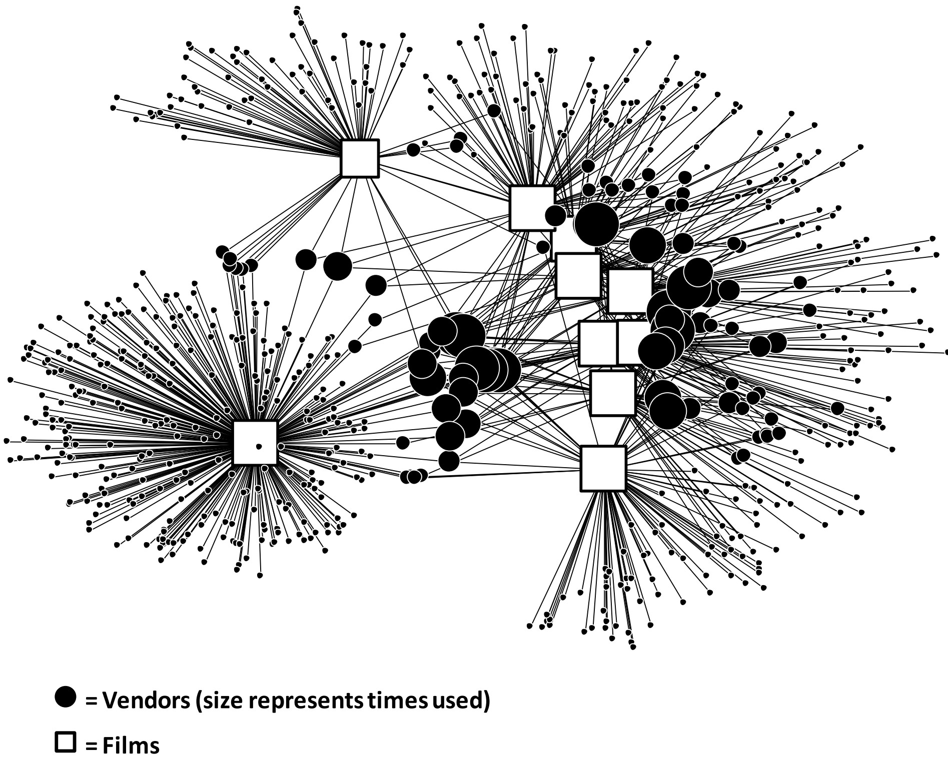


Figure 2. Distribution of non-wage spending for 10 feature films shot in Massachusetts in 2008

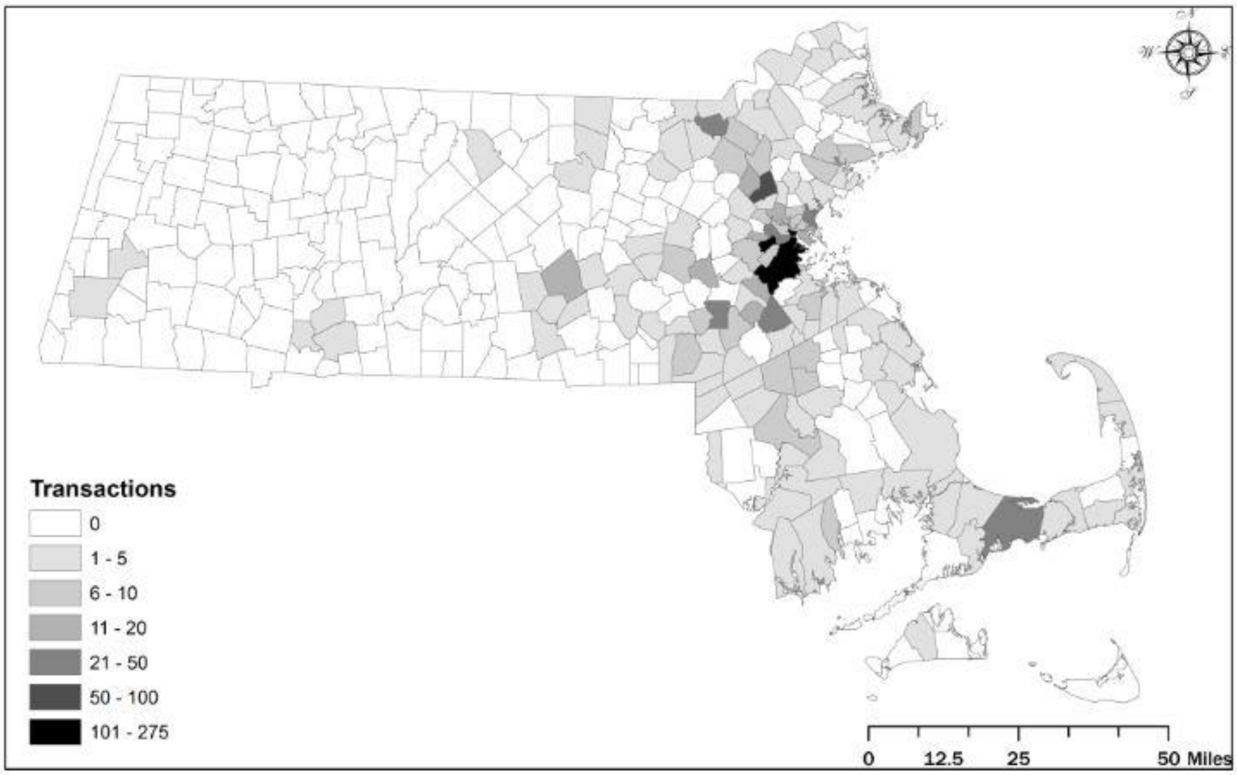
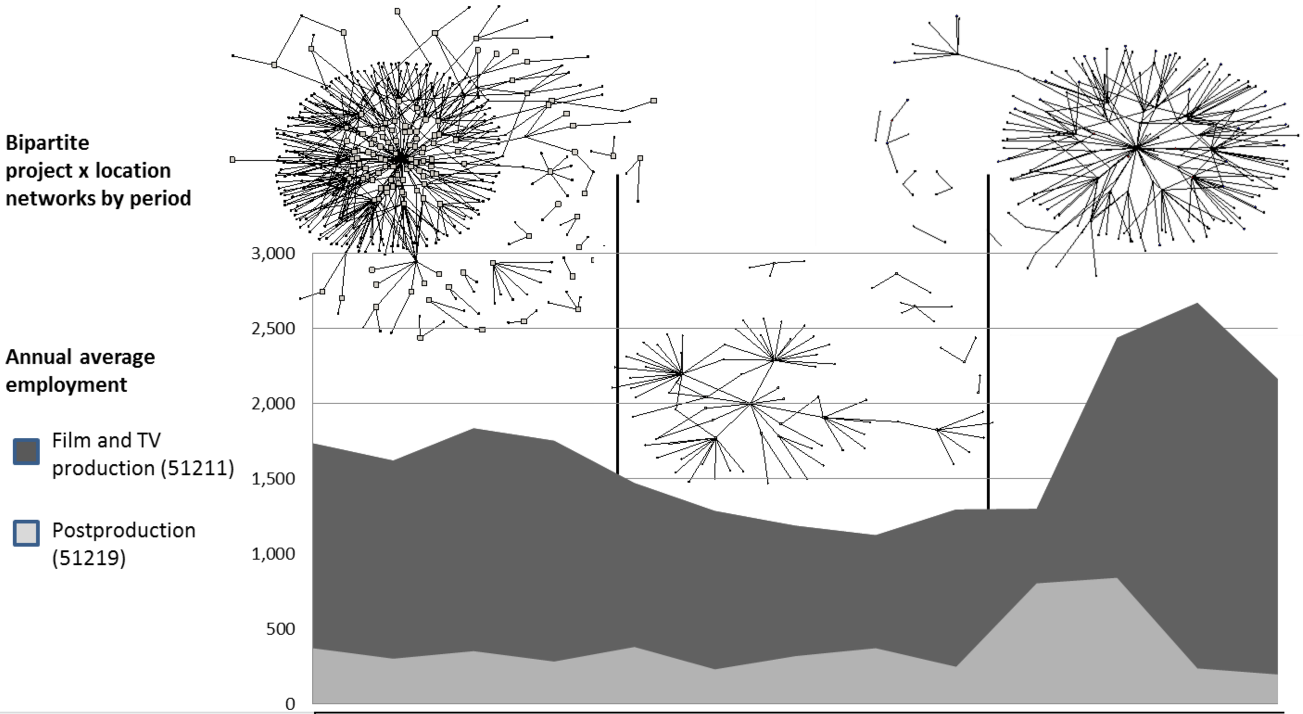


Figure 3. Bipartite project x location networks, annual employment, MFO and tax incentive status: 1998-2010



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Film and Television Productions	10	20	16	13	5	4	2	3	4	9	16	17	12
Massachusetts Film Office Status													
Open/Closed/Contested (??)	Open	Open	Open	Open	Closed	??	??	??	??	Open	Open	Open	Reorg.
Governance	Public	Public	Public	Public	Public	Private	Mixed	Mixed	Mixed	Quasi Public	Quasi Public	Quasi Public	Public
Tax Incentive													
Y/N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y