Familiarity Breeds Attempt: Legitimacy and Foundings during the Emergence of the American Film Industry, 1896-1928

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Include shorts count and features count?

Abstract

What factors influence the establishment of firms during industry emergence? Does knowledge diffusion among prospective entrants, operators of firms in other industries, government and consumers of the product or service have the same affect on the founding rate? When sociopolitical legitimacy is afforded an industry by firms in other industries, government and society is the direction and magnitude of the affect on the founding rate the same during industry emergence? Our analyses of the headlines and sub-headlines appearing in *The New York Times* demonstrates that increasing moral, artistic and financial legitimacy had the anticipated positive effect on the founding rate of film production firms during the emergence of the American film industry between 1896 and 1928. Contrary to our expectations both increasing interindustry and governmental legitimacy had a negative effect on the founding rate of film production firms during our study period. We also found that the largest reduction in the effect of density on the founding rate occurred with the inclusion of the direct measures of sociopolitical legitimacy in the model.

What factors influence the establishment of firms during industry emergence? The consistent pattern of industry evolution in terms of the number of firms comprising an industry over time has been of interest to researchers in many disciplines (Scherer, 1980; Carroll & Hannan, 1989; Hannan & Freeman, 1989 & 1992; Klepper & Graddy, 1990). The empirical regularity in the evolution of new industries consists of three stages. In stage one firms emerge in small numbers. In stage two a rapid increase in the number of firms takes place. In stage three the rapid increase is followed by a period in which the number of firms stabilizes or declines. Klepper and Graddy (1990) found this pattern in the production of products such as shampoo, photocopy machines, motors, radio transmitters, windshield wipers, records and zippers. Klepper and Graddy (1990) came to the conclusion that the pattern cannot be fully explained by economic factors alone.

Theories grounded in the study of population dynamics and institutional theory have been put forward in an effort to understand the non-economic factors that affect industry emergence and growth. Density dependence, with firm density acting as a measure of legitimacy, was proposed as one explanation for the consistent pattern of firm foundings during industry emergence. Carroll (1994), Carroll and Hannan (1989), Hannan and Freeman (1989) found support for density dependence theory and the ubiquity of the firm founding pattern in their studies of railroads, banks, and newspapers. Institutional scholars agree that the legitimacy of an organizational form plays a significant role in their founding rate. However, beyond their agreement that legitimation is an important dynamic there is little agreement between these two streams of research, particularly with regard to the processes underlying the dynamic of legitimation.

Organizational theorists have paid primary attention to the effects of ecological dynamics on founding rates, specifically the role of density dependence. Investigations of density dependence in founding rates have devoted primary attention to the effects of cognitive legitimacy as measured by firm density (Hannan & Freeman, 1987). Hannan and Freeman (1987: 918) argued: "if institutionalization means that certain forms assume a taken-for-granted character, then simple prevalence of a form ought to legitimate". It is this definition of legitimacy that engenders challenges to the theory despite the significant empirical support the theory has received (Hannan & Freeman, 1987; Carroll & Hannan, 1989; Hannan & Freeman, 1989; Carroll & Hannan, 1995; Barnett, 1997; Barron, 1998). Critiques of density dependence theory have made the argument that firm density is an imperfect proxy for the processes of knowledge diffusion that support cognitive legitimacy. Specifically the argument is that if knowledge diffusion occurs in ways other than the increased familiarity created by an increasing number of firms then our understanding of the effects of cognitive legitimacy on firm foundings is incomplete. These critics call for including direct measures of cognitive legitimacy in our analyses of organizational foundings (Zucker, 1989; Baum & Oliver, 1992; Delacroix & Rao, 1994; Baum & Powell, 1995; Deephouse, 1996, 1999, 2000; Barron, 1998). A second line of critique argues that although the end result may be the legitimation of a new organizational form, the underlying process may have more to do with establishing the sociopolitical legitimacy of a new form through the establishment of linkages to other previously legitimated institutions (Baum & Oliver, 1992; Baum & Powell, 1995; Delacroix & Rao, 1994; and Zucker, 1989) and the passage of regulations by local, state, or national governments (Swaminathan, 1995).

Our study wades into this debate by studying the social context of industry emergence, specifically the role cognitive and sociopolitical legitimacy play in affecting the founding rate of

firms as a new industry develops. Specifically we ask two questions. First, does cognitive legitimacy among prospective entrants, operators of firms in other industries, government and consumers of a product or service all have the same affect on the founding rate? Second, when sociopolitical legitimacy is afforded an industry by firms in other industries, government and society is the direction and magnitude of the affect on the founding rate the same? To address these questions we study the founding of film production firms during the emergence of the American film industry from its inception through 1928. We close the study period in 1928. We end our period of study in 1928 because the American film industry was firmly established by that time and because in 1928 "talkies" were introduced. We chose this industry for several reasons. First, because this is a cultural industry the social context is likely to be highly relevant to firm foundings. Second, most studies of firm foundings have been conducted in industries requiring significant capital expenditures prior to entry (e.g. biotechnology, wineries, telephones, breweries, automobiles). By studying an industry that required very little capital to enter, we increase the generalizability of ecological and institutional theories concerning firm foundings. Third, the industry is well documented. Film historians have done extensive work to identify all films that were shown in the U.S. in this period (American Film Institute, 1977-1988). Very few industries, even those founded in the 20th century, have been documented this well. Not only is the documentation thorough, it reaches back to the very beginning of the industry so the data is not left censored, a problem characterizing many studies of firm foundings.

THEORY AND HYPOTHESIS DEVELOPMENT

Defining Legitimacy

The first challenge in a study such as this is the defining of legitimacy. Many alternative definitions of legitimacy have been developed in the organizational and institutional literatures.

Legitimacy has been referred to as constitutive (Rao, 1994), internal (Human & Provan, 2000), external (Singh et al., 1986; Baum & Oliver, 1992; Human & Provan, 2000), industry (Zimmerman & Zeitz, 2002), managerial (Ruef & Scott, 1998), technical (Ruef & Scott, 1998), normative (Ruef & Scott, 1998), sociopolitical normative (Zimmerman & Zeitz, 2002), institutional (Shane & Foo, 1999), pragmatic (Suchman, 1995; Barron, 1998), moral (Suchman, 1995; Barron, 1998), regulatory (Deephouse, 1996), sociopolitical regulatory (Zimmerman & Zeitz, 2002), and social (Westphal, et al., 1997).

The common thread in these definitions is that they combine either cognitive or sociopolitical legitimacy with a focus on a specific constituency or audience. For example, Rao (1994) studied what he termed constitutive legitimacy in the early American automobile industry. He coined the term constitutive legitimacy to reflect the attainment of cognitive legitimacy among the media and the public in the automobile industry's environment. Zimmerman and Zeitz (2002) provide an example in the realm of sociopolitical legitimacy. They distinguish between sociopolitical regulatory and sociopolitical normative legitimacy types. They combined sociopolitical legitimacy with government and society respectively to arrive at these definitions. Consistent with this prior research we maintain the distinction between cognitive and sociopolitical legitimacy in our hypothesis development. In developing our hypotheses concerning the effects of sociopolitical legitimacy we identified four sources of this legitimacy type particularly important to the development of the early American film industry: artistic, financial, moral and governmental.

Cognitive Legitimacy

The foundations of organizational legitimacy research were laid in the 1960's with the work of Weber ([1918] 1968), Parsons (1960), Berger and Luckmann (1966), Stinchcombe

(1968). These researchers focused on the evaluations' of peer organizations, superordinate systems, and power holders as they related to an organization's basic right to exist and acquire resources. During the late 1970's and the early 1980's the neoinstitutionalists de-emphasized the evaluative dimensions of legitimacy and brought attention to the cognitive dimensions of legitimacy. These scholars stressed legitimacy as taken-for-grantedness rather than legality, official approval or desirability (Meyer & Rowan, 1977; Meyer and Scott, 1983). In this stream of research an organizational form is taken-for-granted when it is accepted as the 'normal' way of doing things. It is this definition of legitimacy that supports the use of firm density as a proxy for legitimacy. The proliferation of a form (i.e. increasing density) brings more people into contact with the form, which increases the likelihood that the form will become taken-for-granted. As "Jepperson (1991: 147) noted, such taken-for-grantedness is distinct from evaluation: one may subject a pattern to positive, negative, or no evaluation, and in each case (differently) take it for granted." Empirical work in this area has focused primarily on firm age, firm size and firm density as proxy measures of cognitive legitimacy (Hannan & Freeman, 1984; Singh et al., 1986). This view is consistent with the neoinstitutionalists definition of cognitive legitimacy as taken-for-grantedness. Recent work has taken a more expansive approach to the definition of cognitive legitimacy (Aldrich & Fiol, 1994; Suchman, 1995). These definitions of cognitive legitimacy emphasize the role of knowledge diffusion concerning how to consume a product or service and how to operate a firm within an industry. It is this focus on knowledge diffusion that has resulted in calls for the inclusion of more direct measures of cognitive legitimacy in our models (Zucker, 1989; Baum & Oliver, 1992; Delacroix & Rao, 1994; Baum & Powell, 1995; Deephouse, 1996, 1999, 2000; Barron, 1998).

The diffusion of industry specific knowledge is in part a function of the level of coverage the industry receives in popular media vehicles. The level of media coverage has been shown to affect the pricing of IPO's (Pollack & Rindova, 2003), publics perceptions of firms and industries (Deephouse, 1996, 1999, 2000; Elsbach, 1994) and the founding rate of credit unions (Barron, 1998). Consistent with prior work we hypothesize that as media coverage of an industry increases the founding rate will increase. The effect of media exposure is not expected to increase monotonically because as social cognition research has shown repeated exposures reaches a point beyond which there is little or no incremental effect (Starbuck & Milliken, 1988; Fiske & Taylor, 1991). Thus we expect that increasing media coverage of the film industry will increase the founding rate of new firms but at a diminishing rate:

Hypothesis 1: Firm founding rates increase as media coverage increases, and at a diminishing rate.

Sociopolitical Legitimacy

Sociopolitical legitimacy refers to assessments made by key stakeholders such as the general public, key opinion leaders and government officials, as to whether an activity is appropriate and right, given existing norms and laws (Aldrich & Fiol, 1994). Unlike cognitive legitimacy sociopolitical legitimacy is evaluative and socially constructed. As Suchman (1995: 574) writes "legitimacy is socially constructed in that it reflects a congruence between the behaviors of the legitimated entity and the shared (or assumedly shared) beliefs of some social group; thus, legitimacy is dependent on a collective audience, yet independent of particular observers." A key factor in attaining sociopolitical legitimacy is the ability of an industry to gain the trust of stakeholders. New industries must convince skeptical stakeholders (e.g. government, customers, related businesses) to provide the resources needed to create and distribute its product

or service. However, as Aldrich and Fiol (1994: 647) highlighted "founders of entirely new activities, by definition, lack the familiarity and credibility that constitute the fundamental basis of interaction. As a result, many of the other constraints on a new industry's growth are magnified. Access to capital, markets, and governmental protection are all partially dependent on the level of legitimacy achieved by an emerging industry."

To identify the relevant stakeholders for the film industry we looked to prior empirical and theoretical work. Prior empirical work has examined four primary sources of sociopolitical legitimacy external to firms. These are institutional (Neilsen & Rao, 1987; Deephouse, 1996 & 1999; Baron, 1998, Mazza & Alvarez, 2000, Glynn & Abzug, 2002), interindustry (Neilsen & Rao, 1987; Shane & Foo, 1999; Pollock & Rindova, 2003), industry members (Neilsen & Rao, 1987; Rao, 1994; Ruef & Scott, 1998; Human & Provan, 2000; Zimmerman & Zietz, 2002), and moral (Barron, 1998). Institutional stakeholders considered include government (Singh et al. 1986; Baum & Oliver, 1992); Elsbach, 1994; Deephouse, 1996), churches (Baum & Oliver, 1992), community groups and schools (Baum & Oliver, 1992) and the media (Neilsen & Rao, 1987; Barron, 1998; Deephouse, 1996 & 1999; Mazza & Alvarez, 2000; Glynn & Abzug, 2002).

Consistent with this prior work we consider all four of these audiences in our analysis of the effects of sociopolitical legitimacy on the founding rate in the early American film industry: intraindustry, interindustry, government and moral. Given the environment in which the film industry emerged we consider two interindustry sources of sociopolitical legitimacy, art and finance. As Aldrich & Fiol (1994: 657) argue "the emergence and growth of a new industry is partly dependent on the severity of attacks from established industries and support from the financial community." The most proximate established industry for the emerging film industry

was the stage (e.g. theater, opera, vaudeville). The film industry was often compared to and ultimately came to compete with stage productions.

Intraindustry. Sociopolitical legitimacy is thought to build, in part, through collective action on the part of industry members (Aldrich & Fiol, 1994). Institutional theorists argue that formal institutions (industry associations, professional associations, and regulatory bodies) provide social order and reduce uncertainty (McKendrick et al., 2003) thereby engendering trust and smooth cooperative exchange among members of an industry (Aldrich & Fiol, 1994). Trade associations, for example, help firms formulate product and or process standards through trade committees and more broadly through trade journals (Aldrich & Fiol, 1994). In addition, industry associations often establish and enforce standards that provide a basis on which trust can be developed. Trade associations can also perform a vital role by helping firms create marketing campaigns designed to improve the industry's standing among incumbent industries and the financial community. Russo's (2001) study showing that collective action (measured as the presence or absence of a statewide trade association) on the part of industry members in the independent power production industry increased the founding rate of new firms provides support for this argument. Thus we expect the founding rate of firms will increase as the number of industry associations increases:

Hypothesis 2: The founding rate of firms will increase as the number of industry associations increases.

Interindustry. An interindustry constituency for any business includes all for-profit businesses because these businesses contribute to standards of acceptable business practice and these are the standards by which the practices of any industry are evaluated. In addition, the probability that a new industry will thrive is in part a function of its ability to procure resources

from a subset of these for profit businesses. For the early American film industry other entertainment industries such as vaudeville and the "legitimate stage" are the most proximate members of this constituent group. Suppliers, bankers and other industries upon which film production, distribution and exhibition relied are also part of this constituency.

Artistic. The film industry came to compete with and was often compared to stage productions (e.g. theater, opera, vaudeville). The emergence of an industry is made more difficult when an established industry views the new industry as a threat (Aldrich & Fiol, 1994). For example, actors and producers working in the 'legitimate stage' challenged the morality of films early on (Musser, 1990); and stage actors declined to appear in films and used the word 'flicker' as a slur when referring to films. These pressures forced the film industry to develop an alternate means of distribution which it did successfully in 1905 with the creation of the nickelodeons (Puttnam, 1997). Had these attitudes persisted the film industry may have suffered from the lack of even more vital resources such as actors. Thus we expect that increasing acceptance of film as an art form will increase the founding rate of firms:

Hypothesis 3: The founding rate of firms will increase as the level of artistic sociopoltical legitimacy increases.

Financial. Although there is a diffuse belief that profit-seeking activities are valid (Delacroix, et al., 1989; Aldrich & Fiol, 1994) when firms in an industry attain financing from sources outside the industry (e.g. banks, Wall Street) it is an indication these sources have developed trust in the business practices of the focal industry (Aldrich & Fiol, 1994). It is also an indication that the industry has moved beyond receiving passive acquiescence to receiving active support from this social audience (Suchman, 1995). Another example of increasing acceptance in the business community would be the offering of insurance. The insuring of a film would

indicate that the financial community finds the risks to be more predictable and measurable which in turn indicates acceptance of the related business practices. We would like to emphasize that although this process can be eased by the increasing comprehensibility that comes through isomorphism with standard business practices, it is not necessary. Industry outsiders may well come to learn enough about unique industry practices to be able to evaluate them. Thus we expect that as the financial community comes to trust the business practices of the film industry the founding rate of film production firms will increase:

Hypothesis 4: The founding rate of firms will increase as financial sociopolitical legitimacy of the industry increases.

Governmental. Governments set the stage for market activity by establishing and enforcing property rights (Dobbin & Dowd, 1997). Going beyond this role, governments impact business operations by enacting legislation and imposing regulations. For example, in the early American film industry the states controlled the licensing of nickelodeons (thereby controlling their number). Some states also used their licensing power to threaten closures and to disallow movie showings on Sundays. In our study period the federal government was also active in bringing anti-trust suits first against the Motion Picture Patents Corporation (MPPC) and then against Famous-Players (Bowser, 1990; Musser, 1990).

Several studies have found a significant relationship between the actions of government entities and the founding rate of firms. Ranger-Moore, Banaszak-Holl and Hannan (1991) reported that foundings decreased when the government requirements for receiving a banking charter increased. Dobbin and Dowd (1997) studied railroad foundings and found that both public capitalization and pro-cartel policies increased firm foundings. Wade et al. (1998) reported that non-uniform state-level governmental regulations affected the founding rate of

breweries by creating externalities directly by altering resource flows and indirectly by affecting cultural norms through coercive pressure. Most recently, Russo (2001) showed that the policies adopted by state regulatory agencies to regulate the relationship between independent power producers and utilities were significant predictors of organizational foundings. Consistent with these findings we expect that as the governmental legitimacy of the film industry increases the founding rate of firms will increase:

Hypothesis 5: The founding rate of firms will increase as the level of governmental sociopolitical legitimacy increases.

Moral. Suchman (1995: 579) argues that "moral legitimacy reflects a prosocial logic that differs fundamentally from narrow self-interest….it rests not on judgments about whether a given activity benefits the evaluator, but rather on judgments about whether the activity is the 'right thing to do'……these judgments, in turn, usually reflect beliefs about whether the activity actively promotes social welfare, as defined by the audience's socially constructed value system." During much of its founding period the output of the film industry was challenged. For most of our study period the industry either faced the threat of censorship or active censorship of film content or subject matter. Both the government and an active social uplift movement played important roles in catalyzing the demand for censorship and its implementation (Musser, 1990).

There is only one empirical study examining directly the effects of moral legitimacy on the founding rate of firms. Barron (1998) studied the effect of the anti-loan shark social movement on the founding rate of credit unions. He identified three periods of heightened anti-loan sharking activity based on reports in *The New York Times*. He reported that the founding rate of credit unions doubled in the years following these upsurges in anti-loan sharking activity.

Thus we expect that as society place the activities of the film industry in the category of the 'right thing to do' the founding rate of film production firms will increase.

Hypothesis 6: The founding rate of firms will increase as the level of moral sociopolitical legitimacy increases.

DATA AND METHODS

Our dependent variable is the number of film production firms founded each month between 1896 and 1928 in the U.S. We chose the national level of analysis despite recent work demonstrating that the effects of density are mitigated as the geographic distance between firm's increases (Baum & Singh, 1994; Lomi, 1995; Lomi, 2000; Sorenson & Audia, 2000; Cattani, Pennings & Wezel, 2003; Dobrev & Carroll, 2003; Stuart & Sorenson, 2003; Wezel, 2005). We made this decision due to the characteristics of the film industry during our study period. Although it is thought that 'colonies' or agglomerations of film production firms formed in Jacksonville, Florida and Hollywood beginning in the 1910's, less well known is that the financial and business center of the film industry continued to be in New York (Bowser, 1990; Musser, 1990). Firms did build production facilities in these locations and even a few firms were founded outside of New York but those were rare events. In the remainder of this section we describe our data sources and explain how the measures of cognitive and sociopolitical legitimacy were developed.

Foundings Data. Between 1896 and 1928, 57,055 films were released; of these 46,354 were short films and 10,701 were feature films. We used data on these films to create records for individual companies that were involved in film production or distribution between 1896 and 1928. Two sources were used to identify films and trace them back to the companies producing them during this period. The first source is the American Film Institute's (AFI) Catalog of

Motion Pictures (American Film Institute, 1988). The AFI Catalog comprehensively lists all short films released between 1896 and 1910 and all feature films between 1911 and 1928. Unfortunately, the AFI has not yet cataloged short films released after 1910, despite the fact that these films remained an important part of the industry until approximately 1920 (Mezias & Boyle, 2005). To identify firms producing short films after 1910 we cataloged each short film listed in the *The Moving Picture World*. We manually entered the title, producer and release date for 28,534 short films released between 1911 and 1920. To supplement the AFI data we catalogued all short films produced between 1911 and 1920 appearing in the MPW's list of films released each week. We stopped cataloging short films after 1920 because shorts were no longer a significant factor in the film market. The MPW contained a weekly catalog of films released by each production company. Appearing next to each film title was the release date. A total of 28,534 short films were identified in this way.

The AFI documents films by their initial release date, including month and year. To identify when firms were founded we used the release date of a firms' first film. Although information is limited, it is quite clear that the time to make a film during this era was much shorter than it is today. For example, Musser (1990: 469) wrote that for Famous Players, the first company to regularly release full-length feature films, the time from production to release for a feature length film was one month. The time needed to produce a short film would have been much lower. Consequently, we believe that film release dates are a good approximation for firm founding dates during the entire period of our sample.

In moving from data about films to a database that includes all firms that produced films in the United States between 1896 and 1928, we had to make extrapolations from the AFI and

MPW data[1]. Some record-keeping and documentation problems are bound to arise when researching the early years of an industry. As the AFI (1988: 225) noted that, "The determination of exact names was as difficult for corporate as prominent person names, and, in some cases, nearly impossible. Research among reviews, advertisements, and news items often resulted in conflicting information. For these cases, [AFI] gave the most credence to the name as it appeared in company records; followed by advertisements, copyright records and studio directories." All prominent person and corporate credits listed by AFI as a unique entity were initially included in our database. However, as Mezias and Boyle (2005) found, the uncertainty of those early years resulted in some unique names that were the result of inconsistent documentation rather than distinct firms. To reduce the impact of inconsistent documentation on the accuracy of the data, organizations listed by prominent person names (which cause most of the problem), are converted into firms by applying the following rules: 1) in the same or consecutive years, company names that were identical except for the ending Co., Inc., or Corp. were treated as a single firm; and 2) in the same or consecutive years, company names that were proper names or proper names followed by anything were combined as long as the proper name was the same.

Independent Variables

To test hypothesis 1 we used a rolling twelve month count of the number of articles appearing in *The New York Times*. A total of 1061 articles appeared during our study period. We chose *The New York Times* for several reasons. New York was the center of the film industry throughout most of this period. The leading newspaper of the city, especially in terms of cultural developments, was *The New York Times*, which had a circulation of approximately 2.7 million

[1] All of these are substantively similar to those used by Mezias and Boyle (2005).

(Editor & Publisher, 1902-1928). Second, New York had the largest portion of the U.S. population by far and the NYT had the highest circulation, on average 45% of the total newspaper circulation in the U.S. (Editor & Publisher, 1902-1928)[2].

To test hypothesis 2 we used data from the *Union List of Film Periodicals*, a reference book that lists the founding date for each film related trade publication published in the U.S. Ideally we would have data on the founding of industry trade associations but unfortunately a reliable source of data on these associations is not available[3]. We use the cumulative number of trade publications founded to capture the industry's efforts to create opportunities for coordination and collective action in the film industry.

Consistent with prior research we developed media favorableness measures[4] (Deephouse, 2000; Pollock & Rindova, 2003) to test hypotheses 3-6 concerning the effect of artistic, financial, governmental and moral legitimacy on the founding rate of film production firms in our study period. A growing literature has demonstrated that media reports provide insight into the perceptions of organizations and industries (Elsbach, 1994; Deephouse; 1996, 1999, 2000; Barron, 1998; Lamertz and Baum, 1998; Shane and Foo, 1999; Pollock & Rindova, 2003; Mezias and Boyle, 2005). In addition as Suchman (1995: 574) argued "Legitimacy is generalized in that it represents an umbrella evaluation that, to some extent, transcends specific adverse acts or occurrences; thus, legitimacy is resilient to particular events, yet it is dependent on a history of

[2] An alternative would have been the *Los Angeles Times*. Our concern with using the Los Angeles Times is that the film industry became a significant employer in Los Angeles in the 1920's and therefore the *Los Angeles Times* may have been unduly influenced in favor of the industry. When we searched ABI/INFORM's historical newspaper database we did not find the bias we expected. What we found was that the *Los Angeles Times* did not cover the film industry extensively in our study period. We were fortunate to find that the New York Times Company has compiled all articles appearing in the newspaper referring to the film industry in several volumes collectively known as *The New York Times Encyclopedia of Film* (1984).

[3] The first industry trade association, the National Independent Moving Picture Alliance, was not established until 1909, thirteen years after the industries founding. Rao (1994) thought that the lack of trade associations in the first 5-6 years of the automobile industry delayed the industry's development. The film industry had to wait even longer.

[4] We did consider and test alternative measures of sociopolitical legitimacy including article counts by constituency and the weighting of these counts by article length. Using article counts raised the collinearity in our models weakening their reliability and weighting articles by length did not effect the results.

events. Sociopolitical legitimacy develops largely through public discussion (Suchman, 1995). Suchman's argument that legitimacy assessments are impacted by public discussion has received significant empirical support (Zajonc, 1968; Harrison, 1977; McCombs et al., 1997; Rogers, Dearing, and Bregman, 1993; Lamertz and Baum, 1998; Pollock and Rindova, 2003). For example, Deephouse (2000) using data from newspaper reports found that media favorableness, is positively related to return on assets for the banks in his sample. In addition, Pollock and Rindova (2003) considered the effect article tone, independent of exposure frequency, had on IPO underpricing and post-IPO stock turnover. They found that up to a point increases in positive tenor have limited impact on underpricing and turnover, but after this point increases in positive tenor increased underpricing and decreased the turn-over of a firm's stock.

A key challenge in conducting a qualitative analysis is the development of a word list that captures the constructs of interest. To ensure accuracy and to enhance replicability we adopted a structured content approach to determine whether each headline made reference to one or more of the five types of sociopolitical legitimacy. We discuss below our criteria and key word list development for each of the four sources of sociopolitical legitimacy, artistic, financial, governmental and moral. Our approach to the evaluation of headlines and sub-headlines as favorable and/or unfavorable for the film industry utilizes Miles and Huberman's (1994) formula for determining agreement between coders. Two coders agreed on the codes for 91% of the headlines. Where disagreements occurred, the coders discussed their reasoning until they reached agreement. Table 1 provides sample headlines coded into each category. The key word associated with the category is bolded and headlines coded as unfavorable are italicized. Table 2 reports the number of articles coded as favorable and unfavorable along with the inter-rater reliability for each category. Appendix A provides our complete list of key words by category.

Insert Tables 1 and 2 about Here

Governmental. Headlines coded as referring to governmental sociopolitical legitimacy made reference to a local, state or federal governmental entity or action in the U.S. or abroad. The actions include, for example, the enacting of laws, the imposition of injunctions, bringing of anti-trust suits and the affording of trade protection. The key word list includes 1) all government positions such as president, senator, governor, commissioner, mayor, officials, and judge; 2) names of individuals occupying government positions; 3) government entities such as the Department of Labor and the Trade Commission; 4) government entities specifically oriented to the film industry such as the National Board of Review and the National Board of Censorship; and 5) all government actions including litigation, licensing, injunctions and treaties. Federal government litigation focused primarily on anti-trust suits, first against the MPPC and later against Famous Players. Therefore there are many synonyms for anti-trust on our keyword list including Sherman Act, Trust, monopoly and pooling. An example of a headline coded as favorable in this category is, "*Wilson Thanks Movie Men./Acknowledges Their Help in Promoting Patriotic Campaigns*." An example of a headline coded as unfavorable is, "*Germany Restricts Use Of Our Films/Control of Imports Through Theatre Licenses Leads to Diplomatic Protest From United States—Moving Pictures Called Advance Agents for Trade"*. A total of 164 headlines were coded as referring to governmental legitimacy and of these only 37 were favorable.

Moral. All words related to "vice and virtue" are included in our key word list for moral sociopolitical legitimacy. The first key word list references morality directly and the second group makes reference to censorship. Along with moral and morality the first keyword list includes

words such as virtue, sin, delinquency, reform, ethics, uplift, pastor, religious and Sunday. The second key word list includes censorship, censoring, suppression, ban, and prohibition. An example of a headline coded into this category as unfavorable is, *"Says Films Poison Youth/Pittsburgh Pastor Denounces Their Influence on Sunday Schools."* The following headline was coded into this category as favorable, *"Lauds Producing Here/Mr. Lubitsch Praises Finished Work on Settings─Film and Moral Tendencies."* A total of 97 headlines were coded into this category of which only 10 were favorable.

Artistic. As previously discussed the attitudes and supply of resources from established industries can effect the founding rate of firms during industry emergence. The most proximate industry for the film industry was the stage (e.g. theater, plays, opera, vaudeville). Headlines coded as referring to the acceptance of film as an art form made reference to the movement of professionals from the theater to film, non-film actors, comparisons with theater, theater conversions, art, and film subject matter adapted from the stage. To capture the attitudes of individuals working in the theater and their willingness to participate in the film industry the key word list includes prominent persons in theater such as Klaw & Erlanger, the Shuberts and non-film actors such as Bernhardt, Arliss and Carlyle. Key words indicating a comparison between theater and film include drama, stage, and Broadway. The key word list capturing the conversion of established stage theaters to theaters showing films includes the names theaters such as Strand and Studebaker in addition to the words convert and theater. Mentions of the word 'theater' are only coded into this category when the headline refers to the use of a building. Key words such as art, artistic, inartistic, and commercialism are included in the list to capture comparisons between film and art generally. The last group of key words includes captures the source of film subject matter and includes words such as book, novel, and play. A headline coded as unfavorable was,

"*Daniel Frohman Gets Big Stars to Act for 'Movies'/Famous Manager Expects to Work a Revolution in the Moving Picture Field/Noted Plays and Characterizations Will Be Preserved for All Time*". A sample headline coded as unfavorable in this category is, *"Does A Star Lose Prestige By Acting For the Movies"*. A total of 120 headlines were coded into the Art category of which 101 were favorable.

Financial. Headlines coded as referring to financial sociopolitical legitimacy either make reference to the source of financing or to investment in the film industry. The key word list includes bankers, Wall Street, capital, financing, investors and investment. For example the following headline, *"Bankers are Associates"* would be coded into this category as favorable and the headline, *"Wall Street's Heel on the Prodigal Movies"* would be coded into this category as unfavorable. A total of 21 headlines were coded into this category of which 19 were favorable.

As expected, given the focused nature of news reporting, very few headlines were coded into more than one category. Of the 380 articles coded only 23 (6%) fell into more than one category. Of these 18 were coded into the Governmental and Moral categories reflecting governments' active role in the move to censor films during much of our study period.

We calculate media favorableness by applying the Janis-Fader Coefficient of Imbalance (1965) that measures the relative proportion of favorable to unfavorable headlines while controlling for the overall volume of headlines (Deephouse, 2000). Each headline is given equal weight in the measure, consistent with past research.

This measure is calculated as follows:

$$\text{Coefficient of Media Favorableness} = \begin{cases} (f^2 - fu)/(\text{total})^2 \text{ if } f>u; \\ 0 \text{ if } f = u; \\ (fu - u^2)/(\text{total})^2 \text{ if } u>f \end{cases}$$

where F equals the number of favorable headlines and U equals the number of unfavorable headlines in a given month. TOTAL is a count of the headlines appearing in the NYT in a given month. The range of this variable is –1 to 1. A 1 indicates all positive coverage and a -1 indicates all unfavorable coverage. A 0 indicates a balance between favorable and unfavorable headlines. Because legitimacy is dependent on a history of events but can be resilient to particular events (Suchman, 1995) and because entrepreneurs are unlikely to respond immediately to changing levels of legitimacy we use a rolling twelve-month period as our unit of measure.

Control Variables

Controls are included for firm density, industry concentration, the number of firm foundings in the prior year, the number of firm failures in the prior year, and the square of each of these variables. Each of these factors has been shown to affect the number of firm foundings in prior studies (Carroll, 1985; Barnett & Carroll, 1987; Hannan & Freeman, 1987 & 1989; Mitchell, 1987; Shan, et al., 1997; Carroll & Hannan, 1989 & 1995; Delacroix, et al., 1989; Tucker, et al., 1990). These variables are updated monthly and are lagged by one year. We also include a measure of the general economic conditions in each year, the Percent Change in the U.S. National Gross Domestic Product (GDP). This is an annual measure lagged by one year.

Consistent with prior research we use the GINI coefficient to measure resource concentration among film producers ((Carroll, 1985 & Mezias & Mezias, 2000). The formula is: $1-\frac{G/2}{\mu}$. G is defined to be the absolute mean difference in film production for all firm pairs each month. μ is the mean of film production in that same month (Dorfman, 1980). We also

included a time-trend variable, Population Age, to control for the possibility that the effects of the independent variables were merely the result of the passage of time (Swaminathan, 1996; Barnett, 1997; Schulz, 1998; Ingram & Simons, 2000; Sorensen & Stuart, 2000). This variable is defined as the number of months since the founding of the industry.

Three additional control variables are unique to this analysis. First we control for the market share of the Motion Pictures Patents Corporation (MPPC) between, January 1909 and October 1915 (Mezias & Boyle, 2005). A key event in the development of the film industry was the founding of the MPPC (Bowser, 1990). At the time the MPPC was founded, Edison and Biograph were the two leading firms in the industry and they actively contested patent ownership between themselves and other firms in the industry. The MPPC was formed to share royalties from patents and to bring a halt to the 'patent' wars. We expect that the market control exerted by the MPPC will reduce the founding rate. Second we control for the effects of World War I by including a dummy variable coded 1 for each month between April 1918 and November 1919 with a one year lag. We do not make a prediction regarding the likely effects of the war on firm foundings. A prediction that foundings would decrease due to lower manpower availability is one possibility. Alternatively, the slowing of film imports would suggest an increase in foundings due to reduced competition. The last control variable included is FoundingDummy. As you can see in Figure 1 three months show a disproportionately high number of foundings relative to the other months. Though we have verified that these numbers are correct within the limitations of our data sources we assign a 1 to these months and a zero to all others to control for the fact that the foundings in the three months may contain errors.

Consistent with prior work we use negative binomial regression to model organizational foundings for two reasons. First, the dependent variable is an event count, not continuous as

required by ordinary least squares regression. Second, because the negative binomial improves upon Poisson regression by allowing the mean and variance of the expected counts to vary. The negative binomial includes an error term that captures the effect of overdispersion (Carroll & Wade, 1991; Baum & Singh, 1994, Russo, 2001).

RESULTS

Table 2 reports the number of articles coded as favorable and unfavorable along with the inter-rater reliability for each category. Table 3 provides the summary statistics for the dependent and independent variables. During the study period 72 companies operated in the industry on average in each month. The low was 1 firm in March 1896 and the high was 184 firms in January 1919. The average number of $Foundings_{(t-1)}$ and $Failures_{(t-1)}$ in each month is just about equal, 4.2 and 4.0 respectively. Figure 1 displays the number of firms founded in each month. The number of firms founded in 1909 was 246% greater than the number founded in 1908. The founding rate continued its upward trajectory until 1919. The GNP grew on average by 5% a year. GINI averaged .521.

Insert Figure 1 about Here

On average 31 articles concerning the film industry appeared in the NYT in a rolling twelve-month period. In our study period 115 trade publications were founded. The first publication devoted solely to the movies, *Views and Film Index,* was founded in 1906. In 1907 the trade paper that would become the primary publication for the industry, *The Moving Picture World* (MPW), was founded. Of the four sources of industry sociopolitical legitimacy two had negative average media favorableness scores. Government and Moral media favorableness averaged -.284 and -.394 respectively. Art, and Financial media favorableness averaged, .293,

and .283 respectively. These averages obscure the range and volatility of each of these measures. As Figure 2 shows the measures of both government and moral media favorableness were positive in a few years. You can also see that government and moral legitimacy fluctuated during our period of study. Figure 3 demonstrates that consistent with historical accounts film was not compared favorably to the stage until 1910 and lost ground between 1919 and 1923. Financial media favorableness was consistently positive during our study period (see Figure 3). However, although financial media favorableness was 1.0 in 1909, most likely due to the formation of the MPPC, it did not remain consistently above .50 until 1923.

Insert Figures 2 & 3 about Here

Table 4 presents the results[5]. Increasing cognitive legitimacy was expected to affect foundings positively at a diminishing rate. In the full model (model 4) Article Count is positive and significant ($p<.001$) and Article Count^2 is negative and significant ($p<.001$). This supports hypothesis 1. Support of the hypotheses concerning sociopolitical legitimacy is mixed. Trade Publication Foundings ($p<.001$) and Governmental ($p<.05$) are negative and significant. Therefore, hypotheses 2 and 5 are not supported. The effects of Moral ($p<.01$) and Financial ($p<.01$) legitimacy are positive and significant as expected providing support for hypotheses 4 and 6. The effect of artistic legitimacy is only significant at the $p<.10$ level providing weak support for hypothesis 3.

Among the control variables, MPPC and World War I are both positive and significant ($p<.05$). Density is positive and significant ($p<.001$) and Density^2 is negative and significant ($p<.001$) as expected. GDP Growth is negative but not significant. Industry Concentration is

[5] To ensure that collinearity is not driving the results we checked the condition index for each model. We found that the condition indices for all models are within the acceptable range, below 100 (Belsey, 1991).

positive but not significant. Foundings, Foundings^2, Failures and Failures^2 have the expected signs but are not significant. Population Age is positive but not significant. The effect of Density is reduced from .060 to .053 and the effect of Density^2 is reduced from -.182 to -.179 when Article Count and Article Count^2 are included in the model (see Model 1 and 2). The effects of Density and Density^2 are further reduced when Trade Publication foundings are included in the model (see Model 3). The largest decrease in the effects of Density and Density^2 occur when the sociopolitical legitimacy variables are added to the model. Overall the inclusion of the independent variables of interest to us in this paper reduces the effects of Density from .060 to .031 and Density^2 from -.182 to -.090.

Insert Table 4 about here

DISCUSSION AND CONCLUSION

We began our study by asking two questions in the context of industry emergence—does cognitive legitimacy among prospective entrants, operators of firms in other industries, government and consumers of a product or service all have the same affect on the founding rate? and when sociopolitical legitimacy is afforded an industry by firms in other industries, government and society is the direction and magnitude of the affect on the founding rate the same? We found that cognitive legitimacy in terms of increasing awareness did positively affect the founding rate of film production firms. We also found that the effects of sociopolitical legitim

We expected the founding rate of trade publications to be positively correlated with film production firm foundings and it was not. Our intent in developing this measure was to capture whether a basis for collective action was forming in the industry. First we need to acknowledge

that trade publication foundings is an imperfect proxy for industry association foundings and we therefore may not have effectively tested the relationship between industry association formation and the founding rate. An alternative explanation for this finding is that trade publication foundings may be capturing specialized knowledge diffusion. Extant theory does not make a distinction between the spread of general and specialized knowledge with regard to the rate of firm foundings. Our results indicate that the spread of specialized knowledge has an effect opposite that of general knowledge diffusion suggesting an avenue for future research.

We also expected but did not find support for a positive correlation between increasing government legitimacy and the founding rate. Given that we have controlled for possible time trend effects by including Population Age we conjecture that increasing governmental legitimacy favors incumbent firms. An improving governmental environment may strengthen incumbents and in so doing deter entry. Alternatively it is possible that governmental legitimacy did not reach the threshold or 'tipping point' (Pollok & Rindova, 2003) required to have a positive effect on the founding rate. We do not believe this is the case because increasing moral media favorableness also had a negative like governmental legitimacy but improvement in this measure did have a positive effect on the firm founding rate.

Another result contrary to our expectations was the insignificant effect of industry concentration on the founding rate. Resource partitioning (Carroll, 1985 & 1987) theory suggests that competition among large generalist organizations to occupy the center of a market frees up resources at the periphery that will be utilized by specialist organizations. One explanation is that there is little variance in industry concentration in our study period after 1903. Before 1903 GINI ranged between .5 and .75. From 1903 until the end of our study period the range was between. 5. and .55. An alternative explanation is that the inclusion of MPPC market share, essentially a

second measure of industry concentration while the MPPC was operating, reduces the significance of the GINI measure of industry concentration. In analyses not shown here we estimated models excluding the MPPC market share variable and industry concentration did not have a significant effect on the firm founding rate. Alternatively, we can consider the work of Vermeulen and Bruggeman, (2001: 87) in which they undertook the task of formalizing resource-partitioning theory. Based on their formalization of the theory they assert that "contrary to received opinion—under certain general conditions, 'resource partitioning' and the proliferation of specialists can take place independently of organizational mass and relative size effects, size-localized competition, diversifying consumer tastes, increasing number of dimensions of the resource space, and changing niche widths". They show that the presence or absence of scale economies is the driving force not industry concentration as argued by Carroll (1985, 1987). They argue that if scale economies come to dominate, niche overlap between generalists and specialists will decrease and the number of specialist organizations will increase, which is what resource partitioning theory predicts. Therefore, an alternative explanation for the lack of significance for industry concentration is that economies of scale did not play an important role in the ecology of film production firms during our study period. Certainly early in the industry's history a man and a camera were enough to constitute a production firm (Bowser, 1990; Musser, 1990). Later the MPPC attempted to compete on scale but the firms comprising the MPPC were ultimately driven out of business when feature films were introduced. This suggests that a fruitful line of future is to examine whether the predictions of resource partitioning theory hold in industries in which scale economies are not significant.

Our findings concerning the effects of density and density squared are consistent with the predictions of density-dependence theory. But the decreased effect of density and density

squared when more proximate measures of cognitive legitimacy and sociopolitical legitimacy are included in the models indicates that the processes underlying the effects of density may be other than those proposed by Hannan and Freeman (1987) . It is possible that these variables measure different but related processes. Klepper and Graddy (1990) suggest that density conveys information about the viability of entry (Klepper and Graddy, 1990). While, Horvath, Schivardi, and Woywode (2001) argue that potential entrepreneurs wait to enter an industry until sufficient information regarding the fates of incumbent firms has been accumulated. According to Horvath et al. an informational cascade occurs after mass-entry because sufficient information has accumulated. Higher entry rates allow information to accumulate more quickly because the fate of more firms is available for evaluation by potential entrants. Density may be, at least in part, capturing the effects of the diffusion of information concerning the likely success of a new entrant.

In any empirical work there will be limitations that should be taken into consideration when interpreting the results. In our study the fact that the "medium is the message" is the central concern. Because we rely on the NYT as our primary data source concerning the legitimacy of the film industry we need to recognize that public media both record public knowledge and opinions and set the agenda for public discourse. A record of public knowledge and opinion is exactly the information we need to investigate our questions regarding the effects of cognitive and sociopolitical legitimacy on the firm founding rate. It is the agenda setting portion of the media's function that we need to acknowledge as potentially affecting our results. We believe it is likely however that a newspaper does not get too far ahead of or lag too far behind general public opinion in content and timing of reports. This belief is supported by the fact that the coverage of the NYT in terms of volume corresponds to the size of the industry throughout our

study period. We are however unable to control for the agenda setting function in this era because there were no significant competing outlets for information regarding the industry for the general public. Today, there are a multitude of information channels and a challenge for future research will be to identify alternative measures of public discourse.

Implications

The goal of this study was to examine the effects of cognitive and sociopolitical legitimacy on the establishment of firms during industry emergence. This study contributes to our understanding of the factors that influence the firm founding rate during industry emergence in several ways. As Schoonhoven and Romanelli (2001) reported, most studies of entrepreneurship are conducted with established industries as their context, leaving the question of entrepreneurship during industry emergence largely unexplored. Entrepreneurship during the pioneering days of an industry represents an entirely different set of challenges from those posed by entry into an established industry (Aldrich & Fiol, 1994). As Ashforth and Gibbs (1990: 182) emphasized "both constituents and supporters are likely to prove most grudging when organizational technologies are uncertain or risky, when organizational objectives are contested or unconventional, and when the anticipated relationship with the organization is lengthy and difficult to exit." We address this issue by studying an emerging industry so we were able to test the predictions of density dependence theory in the context for which the theory was developed. Our findings support the claims of institutional theorists that legitimacy is much too complex a construct to be captured by firm density.

Another contribution made by this study is the consideration of alternative measures of cognitive legitimacy and sociopolitical legitimacy in conjunction with the measures of density. By including all of these factors in a single analysis we address, in part, Schoonhoven and

Romanelli's (2001) call for work that considers the economic, social and individual level factors affecting firm foundings simultaneously. Two out of three is a step in the right direction. Future research will be required to determine the efficacy and generalizability of the measures we have constructed. In addition, prior empirical work has focused on the effects of governmental sociopolitical legitimacy. This study expands refines our understanding of the effects of changes sociopolitical legitimacy by considering additional sources of legitimacy—intraindustry, interindustry (artistic and financial) and moral.

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Table 1*

Content Coding of Headlines Appearing in *The New York Times*

Legitimacy Type	Category	Headlines (Favorable/*Unfavorable*)
Governmental	*U.S. Government*	"Film Interest Mobilized. Representatives in Each **State** to Promote Wartime Activities"
		*"**Monopoly** Output and Distribution of American Pictures is Charged"*
	Foreign Government	"Would Put Movie on Plane of Stage/**French Minister** of Instruction Suggests a Conservatory to Develop the Picture Art./Also State Film Library/Cinematograph Regarded by M. Honnorat as the Best Means of International Publicity."
		"***Germany** Restricts Use Of Our Films/Control of **Imports** Through Theatre **Licenses** Leads to Diplomatic Protest From United States—Moving Pictures Called Advance Agents for **Trade**"*
Moral	*Morality*	"Lauds Producing Here/Mr. Lubitsch Praises Finished Work on Settings–Films and **Moral** Tendencies"
		*"Says Films Poison Youth/Pittsburgh **Pastor** Denounces Their Influence on **Sunday** Schools"*
	Censorship	"Film **Censors** Overruled/Pennsylvania Judge Removes **Ban** in First Appeal of Kind"
		*"Movie **Censorship** Law Signed By Miller"*
Artistic	*Movement of Professionals*	"Daniel **Frohman** Gets Big Stars to Act For 'Movies'….Famous Manager Expects to Work a Revolution in the Moving Picture Field…..Noted **Plays** and Characterizations Will Be Preserved for All Time"
		*"Jolson Screen Tests 'Rotten' Lawyer Says Comedian Refused to **Enter** Movies When He Saw Them, He Tells Court"*
	Non-film Actor	"**Bernhardt** In Picture Film./Acts in Adaptation of 'Camille' for a Cinematograph Firm."
		*"Does A **Star** Lose Prestige By Acting For The Movies"*
	Comparison with Stage	"Calls Sound Films Peril To The **Stage**/J.W. Weber of Federation of Musicians Brands Talking Movies '**Art**-Debasing.'/Sees a Cultural Crisis/Gillmore of Equity and Dulzell of **Actors** and **Artists** Confer in Individual Capacities"
		*"Says **Stage** Folk Are Scared Off Screen"*
	Theater Conversions	"Erlanger Shubert Form Movie Chain/Convert One Legitimate **Theatre** in Every City and Town for Showing of Feature Films./May Be Link In Merger/Will Increase Producing Managers' Strength in the Event of **Actors' Equity** Strike in 1924."
		"Movies in Fifth Avenue **Theatre**"
	Art	"''Movies'' Bridge Ages from Cave Man to Us/Visual Appeal Always the Same, Says Noted Artist, Who Discusses the Educational and **Artistic** Future of Motion Pictures"
		*"Musicians To Fight Sound-Film Devices/Federation Votes Defense Fund of $1,500,000 a Year to Prevent Further Spread./Fear Debasement Of **Art**/First Step to Be Survey to Learn Reaction of Patrons—Roxy Deplores Group's Action."*
	Adapted Content	"The '**Inferno**" on The Films/Dante's Story of Hell Shown in Pictures Here for the First Time"
Financial	*Source*	"In Film Industry/National **Bank** of Commerce Points Out Changes in Producers' Policies/No Longer a Spoiled Child/The Business From Now On Will Be Less Spectacular but Safer, the Review Believes"
		*"**Wall Street's** Heel on the Prodigal Movies"*
	Investment	"$**10,000,000** Film Fund"

Note: Two categories have no unfavorable entries: Adapted Content and Investment

Table 2

Distribution of New York Times Articles				
Legitimacy Category	**Inter-rater Reliability**	**Total**	**Favorable**	**Unfavorable**
Government	.88	164	37	127
Moral	.89	97	10	87
Art	.95	120	101	19
Financial	.95	21	19	2

Table 3

Descriptive Statistics and Correlations for Film Production Firm Foundings, 1896-1928

Variable	Mean	Std. Dev.	Min.	Max.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Foundings	4.235	5.062	0.0	32.0							
2. Article Count	30.586	34.862	0.0	126.0	.363••						
3. Article Count^2 (000)	2.148	3.571	0.0	15.876	.166••	.953••					
4. Intraindustry	34.385	39.275	0.0	115.0	.442••	.958••	.876••				
5. Governmental	-.284	.439	-1.0	1.0	.000	-.062	-.044	.031			
6. Moral	-.394	.486	-1.0	1.0	-.319••	-.555••	-.443••	-.539••	.154••		
7. Artistic	.293	.500	-1.0	1.0	.405••	.454••	.371••	.466••	.233••	-.330••	
8. Financial	.283	.467	-1.0	1.0	.256••	.564••	.516••	.537••	-.039	-.361••	.338••
10. MPPC	.096	.188	0.0	.571	.047	-.140•	-.234••	-.257••	-.304••	-.230••	.137•
11. World War I	.061	.239	0.0	1.0	.340••	-.020	-.095	.130•	.275••	-.144•	.148•
12. GDP Growth	.050	.170	-0.627	1.678	.136•	-.233••	-.333••	-.124•	.174••	.072	.033
13. Industry Concentration	.521	.078	0.000	0.746	-.118•	-.121•	-.084	-.126	-.010	.094	-.092
14. Density	72.081	59.070	1.0	184.0	.695••	.754••	.571••	.842••	.037	-.539••	.484••
15. Density^2(000)	8.676	9.979	1.0	33856.0	.672••	.689••	.515••	.793••	.108	-.474••	.415••
16. Foundings	4.154	5.104	0.0	32.0	.725••	.437••	.259••	.534••	.046	-.327••	.359••
17. Foundings^2(000)	.043	.102	0.0	1.024	.580••	.199••	.079	.286••	.089	-.115	.212••
18. Failures	3.975	4.799	0.0	31.0	.663••	.573••	.411••	.657••	.041	-.415••	.394••
19. Failures^2(000)	.039	.077	0.0	961.0	.555••	.329••	.211••	.408••	.085	-.247••	.259••
20. Population Age	198.500	114.460	1.0	396.0	.539••	.897••	.759••	.929	-.088	-.606••	.512••
21. Foundings Dummy	.008	.087	0.0	1.0	.457••	-.012	-.036	.027	.051	-.078	.098

•p<.01; ••p<.001 ; one-sided test.

Table 3 (cont.)

Descriptive Statistics and Correlations for Film Production Firm Foundings, 1896-1928

Variable	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1. Foundings													
2. Article Count													
3. Article Count^2 (000)													
4. Intraindustry													
5. Governmental													
6. Moral													
7. Artistic													
8. Financial													
10. MPPC	.081	.486••											
11. World War I	-.154•	-.018	-.129•										
12. GDP Growth	-.083	.020	-.015	.195••									
13. Industry Concentration	-.079	-.129•	-.022	-.049	.140•								
14 .Density	.391••	.025	-.181••	.359••	.049	-.144•							
15. Density^2(000)	.314••	-.035	-.298••	.397••	.068	-.143•	.979••						
16. Foundings	.240•	.018	-.114	.370••	.122•	-.118•	.789••	.790••					
17. Foundings^2(000)	.127•	-.021	-.131•	.321••	.127•	-.074	.506••	.534••	.875••				
18. Failures	.293••	-.007	-.184••	.344••	.086	-.127•	.849••	.849••	.821••	.619••			
19. Failures^2(000)	.135••	-.037	-.181••	.341••	.090	-.086	.606••	.639••	.698••	.652••	.884••		
20. Population Age	.528••	.089	-.006	.173••	-.070	-.110	.884••	.790••	.593••	.319••	.691••	.429••	
21. Foundings Dummy	-.053	-.066	.030	.222••	.049	-.017	.090	.093	.254••	.371••	.231••	.397••	.045

•p<.01; ••p<.001 ; one-sided test. N=396

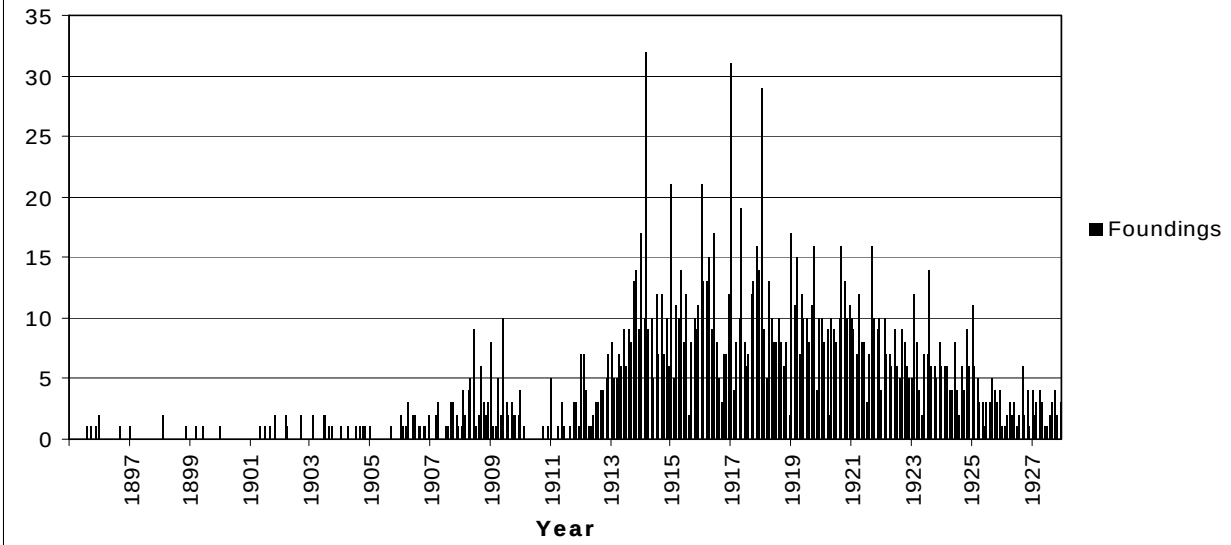
Table 4

Negative Binomial Regression Results for Film Production Firm Foundings, 1896-1928

Variable	(1)	(2)	(3)	(4)
Article Count		.031•••	.037•••	.041•••
Article Count^2 (000)		-.261•••	-.268•••	-.289•••
Trade Publications			-.020••	-.022•••
Governmental MF				-.157•
Moral MF				.180••
Artistic MF				.115±
Financial MF				.164•
MPPC	2.200•••	1.533•••	.727•	.829•
World War I	-.136	.058	.067	.282•
GDP Growth	.158	-.071	-.052	-.184
Industry Concentration	.260	.442	.318	.589
Density	.060•••	.053•••	.045•••	.031•••
Density^2(000)	-.182•••	-.179•••	-.150•••	-.090•••
Foundings	.025	.018	.024	.041•
Foundings^2(000)	.136	-.040	-.089	-.904
Failures	-.032	-.020	-.024	-.030
Failures^2(000)	.739	.422	-.339	.404
Population Age	-.005•••	-.004•	.003	.005
Foundings Dummy	1.055•••	1.116•••	1.262•••	1.468•••
Constant	-1.475•	-1.514•	-2.001•	-2.112•
χ^2	525.46•••	548.66•••	558.29•••	576.50•••

±p<.10;•p<.05; ••p<.01; •••p<.001; one-sided test. N=396.

Figure 1: Foundings of Film Production Firms by Month



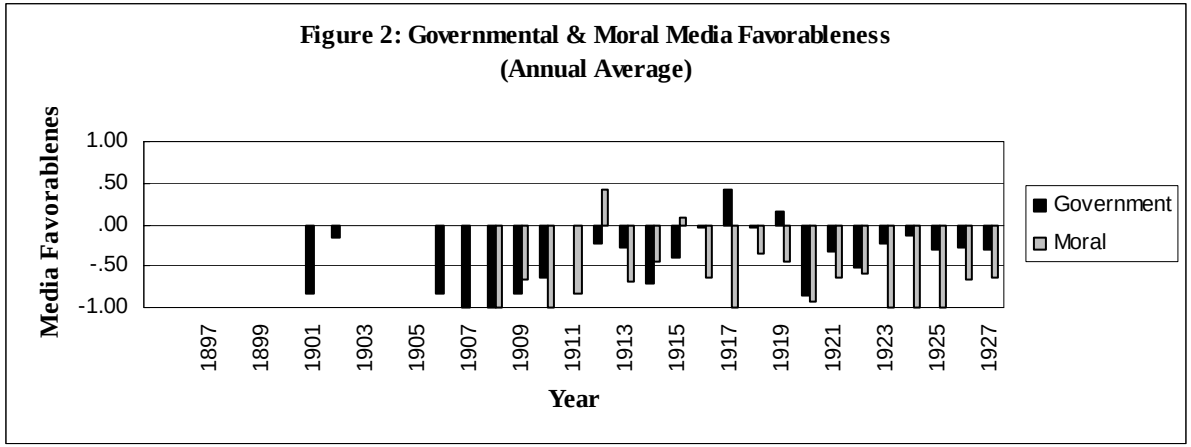
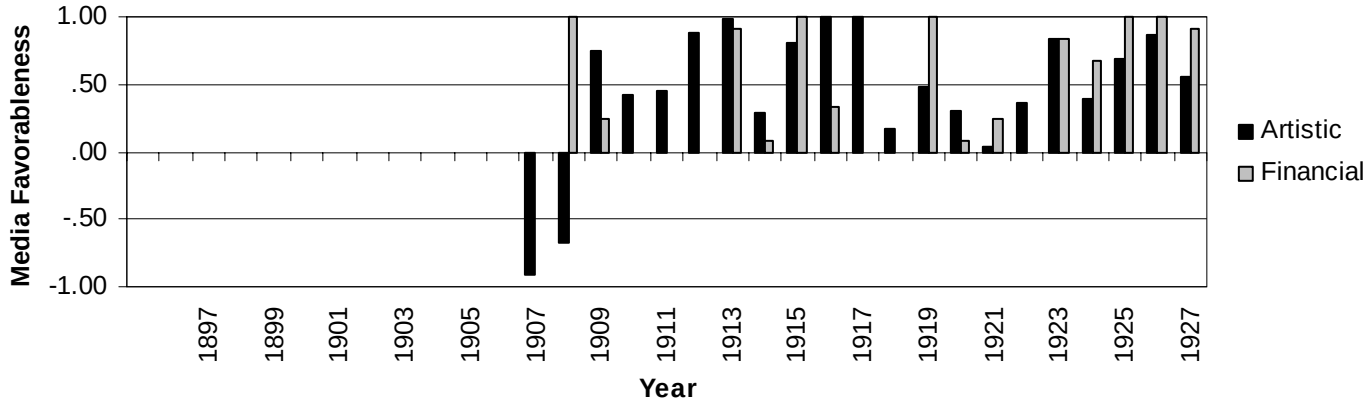


Figure 2: Governmental & Moral Media Favorableness
(Annual Average)
Media Favorablenes
1.00
.50
.00
-.50
-1.00
1897
1899
1901
1903
1905
1907
1909
1911
1913
1915
1917
1919
1921
1923
1925
1927
Year
Government
Moral

Figure 3: Artistic and Financial Media Favorableness



Appendix A

Legitimacy Type	Category	Key Words
Governmental	*U.S. Government*	Government; Commissioner; Mayor; City Officials; Crowder; Roosevelt; Taft; Wilson; Candidates; Politicians; Federal; Nations; General (as in rank); Ambassador; National Board of Review; National Board of Censorship; President; State (when referring to a governmental entity); Defense Minister; Department of Justice; Department of Labor; Governor; City Officials; Trade Commission; Political; Senator; United States; Crowder; Wilson; Hays; Harding; Haynes; Lindsey; Police (only as a noun); State (when referring to a government entity), "Old Films"; Washington; Treasury; Sherman; Sherman Act; Trust (when related to anti-trust); Monopoly; Pool or Pooling (when referring to Patent Pooling); Ordinance; License; Rule; Injunction; Legislation; Litigation; Regulations; Suit; Court; Law; Copyright; Patent; Court; Inquiry (when related to litigation); Quota; Trade; Trade Board; Trade Commission; Treaties; Bar; Exports and Import (only when a government action is discussed)
	Foreign Government	Same as US Government. and Diet; Kaiser; Mussolini; German Censorship Department; Minister; State; Cabinet
Moral	*Morality*	Moral; Pastor; Sunday Operation; Reformers; Reform; Consumers League; Social Problem; Society (when referring to a group); Uplift; Moral Tendencies; Soul; Ethics; Religious; Crime; "Moving Picture Hypnosis"; Sexes; Sex; "Favor with Mothers"; "Worthy Cinema"; "Juvenile Delinquency"; "Movies Criticized"; Cruelty; "Enemies of the Movies"; Sophisticating; Virtue; Sin; Oppose Film; "Teaching Boys to Rob"; Crime; Virtue
	Censorship	Censor; Censoring; Censored; Censorship; Bar; Barred; Ban; Banned; Banished; Cut (when referring the "cutting" of films); Forbids; Prohibition; Suppression; Uncensored; Menace; "Stop It"; Prohibition
Artistic	*Movement of Professionals*	"Well-Known Authors Act"; "Putting Him in Moving Pictures"; "Well-Known English Writer….."; A.H. Woods; Klaw & Erlanger; Shuberts; Laurette Taylor; Jannings; Jolson; Miss Farrar; Thomas Carlyle; Stars To Act for Movies; Why I went into the Movies (Belasco); Lon Chaney; "Reinhardt….Impresario of Spoken Drama"; "Film Directors Drawn From Varied Careers"; Keith-Albee-Orpheum; Enter (when referring to joining the film industy)
	Non-film Actor	Actor and Stars (only when referring to non-film actors); Actors Union; Actor's Equity; Bernhardt; George Arliss; Thomas Carlyle
	Comparison with Stage	Drama; Spoken Drama; "In the Metropolitan"; 5th Avenue Theatre; Broadway; Stage; Vaudeville; Films Stay at Knickerbocker; "Hamlet-Like"; Legitimate Theatre; Opera; Theatrical District; Play (when used as a synonym for Drama)
	Theater Conversions	Strand, Studebaker in Chicago; Theater (when referring to the use of a building); Convert
	Art	Art; Artist; Artistic; Cubism; Inartistic; Commercialism; Classics
	Adapted Content	Adapting; Beaucaire; Inferno; Book; Novel; Play; Playright; Tale of Two Cities; Prose; Arabian Nights
Financial	*Source*	Insurance; Insured; Bankers; Wall Street; Finance; Financing; National Bank of Commerce; Stock; Investor
	Investment	Invest; Investment; Capital