

Multidivisional Strategy and Investment Returns*

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Abstract

This paper studies the influence of multidivisional structure on investment returns using a large database of projects in the U.S. film distribution industry, a setting in which divisionalization exists without horizontal diversification — all divisions of multidivisional distributors release feature films. The findings are consistent with a positive effect of multidivisional strategy on investment returns, even if total investment need not increase. Multidivisional strategies are more consequential for higher profitability when firms share key human talent across their divisions.

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1 Introduction

This paper provides an empirical investigation of the effects of multidivisional structure on investment returns. Whether divisionalization pays off is a central question for strategic managers, as the multidivisional form is one of the most common organizational arrangements across many markets. Traditionally, the M-form has been conceptualized as a feature of firms with a broad product market scope. However, in recent years companies have increasingly pursued divisionalization strategies *within a given industry*. For example, Newell Co. adopted a multidivisional configuration for its relatively uniform product portfolio to exert more power over large clients such as Wal-Mart. DaimlerChrysler decided to maintain its automobile divisions separate after becoming a merged entity to protect the different positioning of its brands. Walt Disney acquired Miramax and kept it as a separate division in the film distribution industry. More broadly, the value consequences of this growing practice cannot be assessed in the context of classic work (e.g., Chandler 1973, Rumelt 1974, Hoskisson 1987, Freeland 1996) that, though insightful, has not distinguished whether divisionalization, rather than horizontal diversification, influences economic outcomes (Sanzhar 2006). This paper attempts to fill that gap by closely examining how divisionalization influences investment returns.

There have been two central impediments to testing hypotheses about the investment returns of multidivisional firms. First, the diversity of investment opportunities across corporate divisions makes cross-industry studies overly reliant on crude measures of divisional investments, thus creating substantial measurement error (Chevalier 2004). Second, data on within-firm variation in organizational form (i.e., multidivisional strategy) is typically not available for the population of firms or for a long time series, thus leading to sample selection problems. This paper attempts to overcome both problems by analyzing how a multidivisional strategy affects the investment returns of film distribution companies using micro data on the population of firms between 1985 and 2009.

The feature film distribution industry in the United States lends itself naturally to studying the investment and performance implications of divisionalization in the M-form for three key reasons. First, the detailed costs (investments) and revenues of thousands of projects are separately observable, thus allowing for a closer look into how different divisions of the same firm invest and obtain profits in product markets. Second, the film distribution industry allows for the study of divisionalization holding horizontal diversification fixed.¹ Specifically, several film distributors pursued corporate acquisitions and internal developments, and subsequently operated in the industry through two different types of divisions: *major* and *specialty*. Because all firms are observed before and after adopting the M-form, the consequences of this multidivisional strategy can be assessed using distributor fixed-effects regressions of investment and returns. This focus on *changes* occurring to the *same* firm as it transitions from the U-form to the M-form helps avoid possibly confounding factors hidden in a cross-section. Third, detailed information is available on each project's human talent and narrow market niche, thus helping explore the causal mechanisms linking multidivisional strategy and investment returns more directly.

The impact of multidivisional strategy on investments, revenues, and returns is tested here mainly using project-level and firm-year-level fixed-effects regressions. The relationships in the data are consistent with a positive effect of multidivisional strategy on investment returns. Specifically, across the different levels of data aggregation in the analysis, film distribution companies that are divisionalized achieve higher box office revenues and higher overall returns. Interestingly, a multidivisional strategy does not necessarily imply larger investments, thus challenging the notion that a principal mechanism for higher returns is more generous capital allocation. These panel fixed-effects findings are confirmed using nonparametric matching models that compare projects of multidivisional firms with projects of uni-divisional firms, matching

¹In the strategy literature, the primary interest in distinguishing divisionalization from diversification is centered on *horizontal* diversification (Chandler 1973), a distinction that can be made using multidivisional data in which different divisions do the same thing in the same market, as is the case in theatrical film distribution. The paper provides some institutional facts and empirical tests confirming that examining divisionalization in isolation from horizontal diversification is warranted in this empirical setting.

observations exactly on each film’s year of release and thematic genre, and approximately on several firm- and project-level characteristics.

The results also reveal that divisionalization increases returns through an internal labor mechanism mostly discussed in theory or case studies that has received little empirical attention. Specifically, multidivisional strategies are more consequential for higher profitability when firms share key human talent — film producers — across their different divisions, consistent with the logic that input-sharing can create synergies (e.g., Dessein, Garicano, and Gertner 2010), especially when talented individuals can signal their higher value more easily in the M-form (Harstad 2007). Relatedly, multidivisional distribution companies seem to provide incentives to star talent to participate in their projects, though not necessarily through higher pay. Finally, alternative mechanisms such as a stronger concentration on genre niches or changes in the project selection processes that hypothetically could be enacted in a multidivisional structure are not supported empirically. Overall, by sharing key talent across their units, horizontally divisionalized firms seem to achieve some benefits of integration without the need to fully integrate.

This study contributes to a general-interest multidisciplinary agenda investigating the performance implications of the multidivisional form; moreover, it also advances a specific body of work analyzing the economic organization of the film industry. On the general front, while new empirical research is providing insights into the drivers of organizational structure (e.g., Rajan and Wulf 2006, Guadalupe and Wulf 2010, McElheran 2011, Guadalupe, Li, and Wulf 2012, Bloom, Sadun, and Van Reenen 2012), it has been relatively hard to study the investment and performance consequences of structure, particularly in the M-form (e.g., Thomas 2010, Sanzhar 2006). This paper exploits micro data to start filling that gap by distinguishing the impact of multidivisional structure from size and scope, dissecting investment returns into their different components to gain insight into different channels, and introducing unique

internal labor market proxies to assess the link between multidivisional structure and outcomes. Moreover, on the specific front of research using the film industry to study internal organization and market arrangements, while much is known about interactions *between* companies (e.g., Einav 2007, Goettler and Leslie 2005, Sorenson and Waguespack 2006, Gil 2009, Mortimer 2008), this paper is one of the first exploring links *across* divisions *within* the same firm (e.g., Corts 2001), thus shedding fresh light on the rising phenomenon of divisionalization within industries with implications for research and practice.

2 Related Research on the Multidivisional Form

Research on the multidivisional form is vast and diverse.² In relation to this study, three strands of economic research are particularly relevant. First, theories of multidivisional organization have explored the equilibrium conditions that keep the costs and benefits of the multidivisional form in balance. Some theories are cast specifically around the components of economic returns, such as multidivisional investment (Gertner, Scharfstein, and Stein 1994, Bernardo, Cai, and Luo 2004) or labor incentives (Aghion and Tirole 1997, Harstad 2007); other theories integrate these internal components with organizational design in connection to product market competition (Veendorp 1991, Faulí-Oller and Giralt 1995, Alonso, Matouschek, and Dessein 2008, Mialon 2008, Dessein, Garicano, and Gertner 2010). While these frameworks differ in their assumptions, results, and mechanisms, they converge in concluding that multidivisional operation implies a high degree of decentralization that can be beneficial to profitability, letting divisional managers focus on what they do best in their product markets and investment decisions. At the same time, an adequate level of monitoring, control, benchmarking and cross-collaboration is desirable, even if not fully contractible, so that the actions of corporate managers designing

²See reviews and general discussions of the multidivisional form in strategy (Rumelt 1974), management (Hoskisson 1987), sociology (Freeland 1996), organizational economics (Roberts 2004), and financial economics (Maksimovic and Phillips 2006).

and managing the organization can add economic value.

Second, a growing stream of empirical work has identified the *drivers* of organizational form.³ Some studies have focused on explaining the characteristics of organizational structures, such as their span of control, breadth, and depth (Rajan and Wulf 2006, Guadalupe and Wulf 2010). Other work has delved into the internal mechanisms that facilitate decentralized operations both in multi-establishment firms (McElheran 2011, Bloom, Sadun, and Van Reenen 2012) and multidivisional firms (Guadalupe, Li, and Wulf 2012). Strongly motivated by current theories and particularly mindful of identification challenges in the empirical analysis, this body of work suggests that organizational design follows precise market and internal mandates broadly consistent with value-enhancing goals.

Third, and most closely related to this paper, a few recent empirical studies have begun to examine the performance *implications* of multidivisional operation. For example, Sanzhar (2006) found that a multi-unit organizational structure is related to lower valuation in seemingly undiversified firms in a cross-section of industries; Klein and Saldenberg (2010) discovered that loose decentralized structures in multi-unit banking lead to lower profitability; and Thomas (2010) found that agency conflicts across divisions of the same firm cause less product standardization and lower performance. While these studies all point to a negative influence of divisionalization on performance, it might be possible that new micro data on the intra-divisional reality of firms can illuminate other consequences and mechanisms lending credence to a positive impact of multidivisional strategy. This paper employs a large database of projects in the U.S. film industry between 1985 and 2009 to assess the relationship between multidivisional strategy and investment returns.

³Although some scholars refer to *scope* (e.g., vertical integration, horizontal diversification) as synonymous to *organizational form*, others consider them radically different dimensions of a firm's configuration. In this brief review, I follow the latter approach.

3 Divisionalization in Feature Film Distribution

The motion picture industry in the United States is over a hundred years old. The secular configuration of the industry has followed its output, the feature film, as companies have taken different positions along a film’s value chain: production, distribution, and exhibition. Although qualitative distinctions between the “creative” side of the industry (production) and its “commercial” side (distribution and exhibition) are highlighted in popular accounts, perhaps the most salient difference across links in the value chain is their economic structure. Production is highly atomized and comprises thousands of firms, many of them based in the greater Los Angeles area, but also in a growing number of locations outside the U.S. By contrast, distribution includes a much smaller set of companies, with a prominent group (the “majors”⁴) controlling much of the industry output and competing actively in the marketplace. Finally, exhibition (i.e., movie theaters) is a retail business typically separated from production and distribution.

Film distribution, the focus of this study, plays a crucial role in the industry for several reasons. First, distributors occupy the central link of the value chain and directly coordinate activities with production companies or even share ownership with them at the company or project level. Second, distributors leverage on their size and resources to enhance the differentiation of a film through marketing. Third, distributors are responsible directly or indirectly for the investment returns of a film, as they influence the financial and creative decisions of production companies through contractual agreements. Once the film is completed, the distributor is wholly responsible for its commercialization. Last, a recent phenomenon of divisionalization within the theatrical distribution business lends itself naturally to studying how multidivisional structure affects investment returns.

Historically, the baseline structure of a film distribution company consisted in being the sole

⁴I follow Cones’s (1992) list of majors, adjusting the list for exits and mergers. The majors include: Columbia Pictures, TriStar, Sony, Walt Disney, MGM, Orion, Paramount, 20th Century-Fox, MCA/Universal, and Warner Bros.

distribution arm of an entertainment firm. Under this uni-divisional configuration, a distribution manager coordinates all decisions regarding the company’s commercialization and marketing, and deals directly with all production teams providing it with projects.

Against this background, divisionalization within the distribution business started in the early 1990s. Following this strategy, different arms of the same parent (e.g., Buena Vista and Miramax of Disney; Warner Bros. and New Line Cinema of Time Warner) began operating separately in the same industry. More generally, the practice of divisionalization within the same product market has spread widely among media and entertainment companies (e.g., television, cable, videogames) in recent years.⁵ In the case of film distribution, the specific way to enact a multidivisional strategy varied across firms. Some distributors acquired rival companies, while others pursued internal developments. Instead of merging the acquired or created entities into their core division (i.e., the major), the corporate parents staffed them differently, allowing for their semi-autonomous operation. The change of structure affected not only these new parallel ‘specialty divisions’ but also the major divisions, which remained larger than the specialty divisions but lost their position as the single distribution arm of an entertainment firm.

Importantly, in the film distribution industry, divisionalization can be conceptualized as occurring without horizontal diversification: all divisions of the newly formed multidivisional structures distribute feature films.⁶ However, colloquially it can also be argued that film companies tend to diversify *vertically* through drawing revenues from sequential channels (e.g., foreign box office, home video, streaming, TV syndication, consumer merchandise), channels on which there is typically very little data available for research (in this paper or in the literature). Two key institutional features suggest that the marginal influence of divisionalization can be assessed in isolation from horizontal diversification in the theatrical film distribution industry.

⁵Qualitative evidence on this organizational practice among media companies is widely available. For example, in a *BusinessWeek* interview (26 August 2010), NBC Universal President Lauren Zalaznick details the challenges of running Oxygen TV as a parallel channel to NBC’s Bravo, which she had previously led.

⁶Because different *film genres* might be posed as potential sources of horizontal diversification in my setting, I implement tests that also control for such kind of product portfolio decision, as will be explained in Section 4.2.

First, ancillary vertical channels are based on the same produced content carefully locked by studios;⁷ hence, while they draw different ancillary formats, they do not diversify their content, as they simply monetize already-completed feature films that I fully observe in the theatrical market. Second, a known feature of the film sector in the period 1985–2009 is the sequential primacy of theatrical film distribution as the first channel through which film companies generate revenue; to the extent that this core market has important implications for ancillary channels (e.g., Elberse and Eliashberg (2003), Hennig-Thurau et al. (2007), Mortimer (2008)), my focus on the theatrical market is warranted.⁸

While this research is centered on the *consequences* of a multidivisional strategy, the various determinants of such organizational form are now briefly outlined for a few prominent examples. Disney acquired Miramax and kept it as a semi-autonomous division in the attempt to gain brand recognition and content in the independent film segment (Biskind 2004). Turner Broadcasting’s New Line was an attempt to complement a recently acquired film library with a set of proven production and distribution capabilities.⁹ Warner’s Fine Line division seemed to seek better artistic recognition in the form of Academy Awards,¹⁰ although its low performance would lead Time Warner to replace it later with Picturehouse.¹¹ Universal’s Focus Features sought to achieve a “combustible dynamic that combines a first-class independent marketing and distribution entity with an entrepreneurial spirit that (...) will create the global leader in specialty film.”¹² Twentieth Century Fox’s Fox Searchlight initially acted as a “farm team” for the major studio, though it was heavily dependent on strong reviews and support from the press to reach a mainstream audience in an increasingly crowded specialty market.¹³ Sony’s

⁷Brooks Barnes, “Web deals cheer Hollywood, despite a drop in moviegoers,” *The New York Times*, 25 February 2012.

⁸For robustness, Section 5 reports untabulated models using data on foreign box office as an ancillary channel, finding largely the same results as those in the paper.

⁹Peter Bart, “Ted Turner’s deals tend to look better with age,” *Variety*, 15 November 1993.

¹⁰Variety Staff, “Major alliances: studios see value in ownership of indies,” *Variety*, 24 July 1997.

¹¹Ian Mohr, “Niche riches,” *Variety*, 25 December 2005

¹²Dana Harris and Carl Diorio, “Good Machine buys alters Focus at U,” *Variety*, 2 May 2002.

¹³V Page, “Fox Searchlight focuses names, arthouse appeal,” *Variety*, 7 January 1997.

Paramount Vantage sought to make financially prudent films at a time when the industry faced rising costs.¹⁴ These different rationales for divisionalization suggest that no single exogenous event in the industry led to the enactment of the M-form.

Rather, the multidivisional strategy in film distribution emerged from secular competitive dynamics between major and independent distributors (Perren 2012). In principle, such dynamics should be directly or indirectly reflected in film investments and returns, which are the central constructs analyzed here. Moreover, secular trends can be somehow accounted for in the regression analysis. By observing the *micro* aspects behind investment, performance, and divisional operation in a rich cross-section of project characteristics that also evolve over time, alternative sources of heterogeneity are controlled for, enabling a more direct focus on the effects of divisionalization.

Because only the largest film distributors became multidivisional, a key alternative explanation for the effects of multidivisional strategy is firm size. Theoretically, divisionalization may be considered a quick fix to revert diseconomies of scale (e.g., decreasing marginal returns to capital) through creating a smaller entity inside a large firm, so that any changes in outcomes may be wrongly attributed to divisionalization if they instead actually follow a simple neoclassical rebalancing of scale along the production function. The empirical design described in Section 4 directly addresses this alternative explanation by including detailed proxies for firm size. Moreover, the fact that only the largest firms adopted a multidivisional form suggests that divisionalization is not free, as it entails substantial sunk costs that may deter other firms from adopting it (Perren 2012).¹⁵

It is also important to examine whether post-divisionalization outcomes are simply mechanical. Figure 1 plots the pre-trend of firm-year profitability for firms adopting a

¹⁴Nicole Laporte, "H'wood searches for new niches," *Variety*, 8 October 2006.

¹⁵I do not observe the monetary sunk costs of divisionalization; thus, all my subsequent analysis has a partial equilibrium foundation.

multidivisional strategy above the returns of all firms that remain uni-divisional throughout all years in the sample. Clearly, multidivisional firms were more profitable than uni-divisional firms in the years preceding the adoption of the multidivisional strategy, though the specific patterns of profitability are sometimes ascending, sometimes descending. Overall, the figure does not suggest any mechanical link (like an Ashenfelter dip) between pre-adoption trends and post-adoption returns.

This study builds on prior research examining organizational form, scope and performance in the film industry. For example, Corts (2001) focuses on the competitive effects of *vertical* divisionalization between film production and distribution; Goettler and Leslie (2005) study the collaboration among production firms to finance films and reduce risk; Chisholm and Norman (2006) compare theater chains and independent theaters to analyze theatrical run length and pricing; and Gil (2009) proposes vertical integration between distribution and exhibition as a determinant factor for theatrical run length. Overall, existing research sheds light on different types of organizational arrangements but no prior work has analyzed the effects of horizontal divisionalization in the distribution industry.

4 Empirical Design

4.1 Data

The data are based on the population of feature films released in the United States between 1 January 1985 and 31 December 2009, drawing from different sources. Baseline Intelligence Research hand-collects proprietary information on film production budget and advertising expenses; this source is supplemented with data from IMDb, TNS Media Intelligence, and secondary sources consulted by the researcher. *Variety*/ACNielsen EDI provides firm and project registries, as well as weekly information such as U.S. box office revenue and screen contracting per

film. Corporate information on divisionalization is obtained from Variety, Compustat, Hoover's Online, the *Wall Street Journal* archives, Wikipedia, and Dun & Bradstreet's *Who Owns Whom*.

The main filter to go from the population of projects to the empirical sample is production budget information, as is customary in studies of the film industry (e.g., Einav 2007). In this paper, given the comprehensive investment data provided by Baseline Intelligence, the budget information is available for 80% of all films. Hence, the models are based on this nearly complete representation of the population.¹⁶ Because the data span more than two decades, for consistency all monetary values are expressed in 2009 dollars, using deflators from the Economic Report of the President.

Table 1 provides summary statistics at the project and firm-year level using all films for which production budget information is available, after dropping projects from the calendar year when a multidivisional strategy starts, leaving 7,646 films as the total sample. Thirty-four percent of all projects are brought to the market by multidivisional firms, while only six percent of all firm-year observations are from multidivisional firms.

¹⁶I also inspect the excluded subsample that does not pass the filter of production budget availability (20%). Of these excluded films, only 6.2% come from multidivisional firms; by contrast, as displayed in Table 1, 34% of the included sample films come from multidivisional firms. These patterns suggest that (i) the excluded sample is heavier on uni-divisional firms — specifically, those that never become multidivisional, as revealed by further tabulations — possibly because they are less prone to reporting investments, and (ii) multidivisional firms are remarkably well represented in the included sample: $100\% - (6.2\% \times 20\%) / (34\% \times 80\% + 6.2\% \times 20\%) = 96\%$ of all multidivisional films are present in the included sample. Pattern (i) suggests that the underrepresentation of uni-divisional firms' projects in the included sample limits their power as control observations; however, this concern is assuaged by the fact that estimates in all main models are *within* firm (i.e., using division or firm fixed effects), thus employing as the key control sample those films of the *same* firm before the M-form was adopted; per pattern (ii), these firms are remarkably well represented. Further speculation about why uni-divisional firms are more prone to hiding their production budget information may suggest that such projects are particularly unprofitable; the omission of unprofitable uni-divisional projects from the included sample works against finding any positive association between multidivisional structure and returns; by contrast, all results in the paper suggest that uni-divisional projects are less profitable than multidivisional projects even with the 80% sample used throughout.

4.2 Specification

I seek to understand the investment and performance implications of adopting a multidivisional structure. As briefly reviewed in Section 2, this endeavor fits into the broader context of research addressing the consequences of organizational form. On the one hand, my design is not centered on a natural experiment or an exogenous instrumental variable (typically unavailable in the literature, as well); on the other hand, the existence of within-firm variation in organizational form and the availability of near-population information in my data allow for an unusually detailed linear fixed-effects estimation strategy that goes beyond traditional and recent contributions in the literature.¹⁷ Throughout the paper, I provide evidence on the robustness of this design to alternative mechanisms and omitted variables, though as in any reduced-form specification, *marginal effects* can be more conservatively considered *associations*.¹⁸

My primary models are based on a firm-year level panel fixed-effects specification. Because the data structure also allows for a more granular specification at the level of each film *project*, I first introduce that project specification before detailing the main firm-year level design. Specifically, to measure the influence of multidivisional strategy on project-level outcomes y , consider the regression model:

$$y_{i,t,k} = \alpha + \beta * Multidivisional_{i,t} + \eta * X_{f,t} + \delta_{i \times g} + \gamma_t + \theta_i * \tau_{i,t}^2 + \epsilon_{i,t,k} \quad (1)$$

In specification (1) the sample is all films of all distribution companies, as detailed in Subsection 4.1. In this sample, only two types of firms can be found: (a) stand-alone firms that never become multidivisional, and (b) firms that started as uni-divisional but at some point became multidivisional.¹⁹ Equation (1) explains project-level outcome variables (where k denotes each

¹⁷For an early study based on survey data, see Hill and Pickering (1986); for a recent cross-sectional study comparing multi-business and single-business firms, see Cohen (2009).

¹⁸In describing the results in the text, I use these terms indistinguishably for ease of reading.

¹⁹In the film distribution industry, there are no firms that transition back from multidivisional to uni-divisional; while this reverse movement would be desirable to bolster the statistical interpretation of β , the data allow for

project) using divisional and firm level explanatory variables. Specifically, subscripts i and f may have different meanings depending on the firms in question. In the case of uni-divisional firms that never become multidivisional (case (a)), i is the same as f , that is, a *firm-level* construct. By contrast, in the case of uni-divisional firms that become multidivisional (case (b)), i represents the division whereas f represents the firm to which i is affiliated in year t . For example, consider Miramax before 1993 and Miramax after 1993. (In 1993, Miramax was acquired by Disney, thus leading to a multidivisional configuration); for Miramax films, i is always Miramax (i.e., the division), whereas f is Miramax before 1993 but f becomes Disney after 1993. A unique advantage of the film data is that I can observe Miramax projects as belonging to Miramax even after Miramax becomes part of Disney. Thus, the proposed specification seeks to exploit fine-grained divisional fixed effects to assess the outcome of multidivisional strategies.

The variable of interest, $Multidivisional_{i,t}$, is a dummy equal to one whenever i is part of a multidivisional structure in the distribution industry.²⁰ A key concern in studying multidivisional structure is whether its effects can be distinguished from a primary competing explanation: firm size. To this purpose, specification (1) includes several variables $X_{f,t}$ controlling for firm size; thus, the effects of multidivisional structure can be assessed in the context of well-known work studying the effects of scale and scope inside the firm (e.g., Henderson and Cockburn 1996).

Yet the disaggregation advantage of the film setting permits a tighter distinction of alternative forces at work. Specifically, equation (1) includes firm (or division) i fixed effects interacted with film genre g fixed effects, as represented by $\delta_{i \times g}$. Because film genres might be considered dimensions over which distribution firms can horizontally diversify their product portfolio, including $\delta_{i \times g}$ in the specification helps control for any change in the composition of film genres after firms become multidivisional.

other types of analysis of alternative explanations linking multidivisional structure and outcomes, as detailed later in the paper.

²⁰Because some film distribution companies, years after becoming multidivisional, continued their addition or creation of divisions, in robustness tests described in Section 5.6 I also expanded specification (1) to consider the marginal effect of those additional divisions, finding that they don't alter the interpretation of the main dummy.

In addition, γ_t are year dummies, and $\tau_{i,t}^2$ is a quadratic term for years centered at zero for the year when a firm becomes multidivisional, and is equal to zero if the firm never becomes multidivisional; this term is multiplied by the division or firm fixed effects θ_i . This flexible quadratic specification captures alternative mechanisms associated with multidivisional structure that would be confounded otherwise with β ; note that no linear trend centered around the year of multidivisional adoption should be included because such control trend would be somewhat collinear with $Multidivisional_{i,t}$. Projects from the year in which a firm's multidivisional strategy is enacted are dropped from the analysis for consistency. Finally, $\epsilon_{i,t,k}$ is an error term; because project characteristics may be correlated with one another in a given year, and because error terms of the same firm can be correlated with one another, specification (1) uses double-clustering at the level of each year t and each firm f .

The main models of the paper follow a panel fixed-effects form at the firm-year level:

$$y_{f,t} = \alpha + \beta * Multidivisional_{f,t} + \eta * X_{f,t} + \theta_f + \gamma_t + \theta_f * \tau_{f,t}^2 + \epsilon_{f,t} \quad (2)$$

where $Multidivisional_{f,t}$ is a dummy for whether firm f is multidivisional in year t ; $X_{f,t}$ are firm-year level controls; θ_f is a set of firm fixed effects; γ_t are year fixed effects; $\tau_{f,t}^2$ is a quadratic term for years centered at zero for the year when a firm becomes multidivisional, or zero otherwise, and it is multiplied by the firm fixed effects θ_f ; and $\epsilon_{f,t}$ is an error term. Standard errors in this specification are robust and clustered at the level of each firm f .

To capture size as an alternative explanation for outcomes possibly associated with multidivisional structure, $X_{f,t}$ in equation (2) is exactly defined as in equation (1). In addition, when collapsing the data at the portfolio (i.e., firm-year) level, a control variable defined as the standard deviation of a firm's production budgets is also included, capturing risk diversification over project investment size.

The project and firm-year specifications are meant to be complements rather than substitutes in modeling the influence of multidivisional strategy on investment returns. While the main focus is on estimating firm-year level outcomes, the richness of the intra-divisional project data can be exploited to bolster the interpretation of the effects of multidivisional structure. Further, a detailed description of tests of mechanisms is provided along with the results in Section 5, and nonparametric nearest-neighbor matching models of how multidivisional firms' projects differ from those of uni-divisional firms are described in Section 6.

5 Results

5.1 Multidivisional strategy and project-level outcomes

Table 2 reports regression models measuring the impact of multidivisional strategy on project-level variables following equation (1). The outcomes of interest are project investments, revenues, and overall returns, all of which are in logarithms of dollar values as defined in Table 1. *Multidivisional* is a dummy equal to one for distribution entities that are part of a multidivisional distribution structure. The key control variables are those capturing size, the main alternative explanation to the influence of organizational form. While the inclusion of control variables helps abstract from unrelated sources of variation in the data, it may also raise the concern that spurious relationships between these controls could distort the direct effect of the multidivisional variable on outcomes; for robustness, in untabulated tests, I replicate all the models of the paper without control variables, finding essentially the same results as the ones shown here.

Estimating the impact of multidivisional strategy on project outcomes including only firm-level or divisional controls on the right-hand side, is an approach justified by the nature of project decisions in this setting. In fact, the project-level dependent variables capture cost (investment), revenue, and profitability in a micro, comprehensive way, thus effectively

incorporating changes that matter for the bottom line. (For matching models controlling for project-level characteristics, see Section 6). Moreover, the inclusion of firm-specific quadratic time trends assuages concerns about confounding shifters unrelated to multidivisional adoption that may be driving the results. (Dropping these firm- or division-specific $\theta_i * \tau_{i,t}^2$ terms from the analysis does not change the results).

The first two columns of Table 2 show that multidivisional strategy is positively and significantly associated with larger production investments and larger advertising investments. The estimates are economically large (ranging between 26% and 63% of increment in the dependent variable associated with the enactment of a multidivisional structure) and point to the same direction — multidivisional strategy leads to larger project investments — but each has a different interpretation. Conceptually, production budgets depend only partly on the distribution company, as they may be largely determined before the distribution deal is made (on a date that is unobserved in the data); by contrast, advertising investments are wholly dependent on each distribution company’s expectations of potential revenues given the film content they receive. Therefore, the first result is consistent with a tendency of multidivisional firms to choose more expensive projects whereas the second result implies larger investment on the part of multidivisional firms. Importantly, the influence of multidivisional strategy shown in Table 2 is distinct from any effect attributable to size, which is modeled using three different proxies. Moreover, the inclusion of firm (or division) fixed effects interacted with genre fixed effects goes beyond the analysis of scale and scope advantages (e.g., Henderson and Cockburn 1996) to assess the impact of divisionalization while holding size and scope fixed.

While the influence of multidivisional structure on distinct investment items seems substantial, it is also important to assess its pooled effect. The third column of Table 2 shows that multidivisional strategy is strongly associated with larger total project investment, defined as the sum of production budget and advertising expenses. This finding is consistent with a

capital allocation story in which more financial resources flow to cash-needy projects.

Does multidivisional strategy matter for project performance? The fourth column of Table 2 explores this question using box office revenue as the dependent variable; the results suggest that multidivisional strategy has a positive and significant influence on revenues; if film investments are considered sunk at the moment of release, then this positive effect of multidivisional structure on project revenues can be considered a net gain. Alternatively, the fifth column of Table 2 employs as a dependent variable a conservative measure of overall returns, the logged ratio of revenue over total investment. Under this specification, multidivisional strategy again shows a positive and significant influence on overall returns (40%), suggesting that the multidivisional form is indeed value enhancing.

Much of the empirical appeal of analyzing multidivisional strategies in the film context is the observability of project outcomes. However, it is also known that films have a long tail — their revenues continue to accrue even after a long time has elapsed since first release. While the empirical design of this paper is centered on a well-defined industry, theatrical distribution in the United States, the fact that multidivisional strategies have positive implications as shown here also assuages the concern that hidden revenues in ancillary markets would change the interpretation of the findings. Specifically, prior work has documented that U.S. box office revenues are strong predictors of international box office (Elberse and Eliashberg 2003) and video rentals (Mortimer 2008). Distributors with a multidivisional strategy significantly increase their project revenues and investment returns in the theatrical market, the fiercest competitive environment to turn a profit for their film content.

To bolster this argument empirically, I collected a supplementary data set on foreign box office revenues, and tested for whether multidivisional strategy had any positive impact.²¹

²¹To put together this data set, a wide range of sources were searched: Variety, Box Office Mojo, the European Audiovisual Observatory, and IMDB. My testing sample consisted of 230,512 observations on film-week box office results in Argentina, Australia, Austria, Canada, Chile, France, Germany, Hong Kong, Italy, Japan, Korea, Mexico, the Netherlands, South Africa, Spain, and the United Kingdom. While this non-US performance information seems broad and rich, I also found it spotty and not nearly as comprehensive as my main data

A limitation of the foreign box office information collected is that it starts mostly after companies already adopted a multidivisional configuration, thus precluding panel fixed-effects tests. Nonetheless, in untabulated yearly cross-sectional regressions, I found that multidivisional structure is positively and significantly associated with higher foreign box office revenue, in congruence with the results of Table 2 and the qualitative arguments above.

One dimension of ancillary channel success that could be more easily interpreted and is more fully available in my data is whether American feature films get exported to other countries. This binary variable, which is less detailed than the unavailable series on worldwide box office revenues of each American film, nonetheless conveys important information about a threshold of success that may be more often reached after distribution companies adopt a multidivisional structure. In an untabulated regression following exactly specification (1), I find that multidivisional structure makes a U.S. film 16% more likely to get exported, thus confirming the positive impact of this organizational form.

5.2 Multidivisional strategy and firm-year outcomes

The core result that the multidivisional form is positively associated with investment returns could be challenged as an artifact of disaggregation at the project level. Conceptually, it can be argued that firms optimize over the entire set of films in a given year rather than over each individual project, so that organizational form can only be consequential if it matters for aggregate firm-level returns across all films; moreover, some divisions of the same firm may be more profitable than others but what matters is their joint overall performance. Empirically, as detailed in Table 1, 34% of the films are carried by multidivisional distributors but only 6% of all firm-year observations are multidivisional. It is therefore important to investigate the influence of divisionalization at a higher level of aggregation before drawing a conclusion.

set on U.S. box office revenues.

Table 3 reports panel fixed-effects regression models of how multidivisional strategy influences firm-year level outcomes, as detailed in equation (2). All variables are summed over each firm each year and expressed in logarithms, so that even if a firm had many film projects in a given year, and more than one division carrying projects in that year, it would amount to just one observation. *Multidivisional* is a dummy equal to one for firms that have a multidivisional operation in a given year. The control variables are as before and also include the standard deviation of production budgets in a firm’s portfolio every year.

As detailed in Section 3, firms pursued divisionalization for different reasons. While a linear regression with firm fixed effects takes care of time-invariant heterogeneity for each firm, there might be other firm-specific time-varying factors. Because it would be inadvisable to include a firm-specific linear trend with respect to the year of multidivisional adoption, as such trend would be somewhat collinear with the multidivisional variable, to assuage concerns about unobserved shifters specification (2) includes a firm-specific quadratic trend. (Dropping these firm-specific $\theta_f * \tau_{f,t}^2$ terms from the analysis has no impact on the results).

The first columns of Table 3 suggest that multidivisional strategy has no discernible relationship with firm-level investments in films. Specifically, the coefficient on the multidivisional variable does not significantly explain production investment and advertising investment either separately or summed. The contrast of this pattern with that of Table 2 in which multidivisional strategy was strongly associated with project-level investment is consistent with a composition effect, possibly explained by a pattern of underinvestment in some projects and overinvestment in others that gets washed in the aggregate (e.g., Bernardo, Cai, and Luo 2004). Film slates are comprised of large-investment projects and small-investment projects; also, multidivisional firms have large divisions and small divisions. When pooling all projects and all divisions of a single firm as just one observation, it is plausible that effect of multidivisional structure on total investment ceases to be statistically different from zero. Importantly, this lack of significance at

the firm level challenges the notion that multidivisional firms invest more because they are larger (i.e., a scale explanation for the effects of organizational form). In fact, two of the three proxies for firm size do a better job explaining total investment than multidivisional structure does.

In contrast to the results on aggregate investment, Table 3 shows that multidivisional strategy is strongly associated with higher revenues and overall returns. The fourth and fifth columns of Table 3 detail regression models assessing the influence of multidivisional strategy on each firm's yearly box office revenues and revenue over costs; the coefficient on multidivisional strategy is positive and economically significant, representing 32% and 52% increments, respectively. These firm-level findings are reassuring of the project-level results in Table 2, confirming that multidivisional strategy has value-enhancing consequences. The results are in sharp contrast with Sanzhar's (2006) argument that organizational structure may lead to value-destruction in undiversified firms in the cross-section of industries; the findings also differ from Klein and Saldenberg's (2010) proposition that loose decentralized structures within a given industry lead to lower profitability. In fact, the results are consistent with a *divisionalization premium* that may actually counteract a strongly negative diversification discount. The advantage of the film setting in measuring divisionalization, rather than holding-like structures, has important implications for inference.

However, the results found thus far beg the question of what causal mechanisms may be connecting multidivisional strategy to higher profitability, especially because aggregate investment is not increasing with divisionalization, as shown in Table 3. I turn to exploring these mechanisms next.

5.3 Mechanisms for the influence of multidivisional strategy

Divisionalization can enhance profitability through a better use of inputs or a stronger market position. According to the input logic, multidivisional firms share resources across their divisions

in order to instill best practices, ideas, or opportunities that enhance their value-creation potential (Dessein, Garicano, and Gertner 2010). According to the market logic, divisionalization leads to better results through strengthening the competitive position of a firm with respect to its rivals (Veendorp 1991, Mialon 2008). These mechanisms have not received much attention in empirical research, yet a unique advantage of the film setting is the availability of micro data on the identity of individuals behind each investment vehicle and the market segment targeted by each investment, thus enabling a more nuanced explanation linking multidivisional strategy and economic returns.

First, knowing the identity of individuals performing the role of *film producers* is useful to assess whether multidivisional firms share human capital across their divisions, thus increasing their odds of higher returns. Prior work has described the business savvy and creative instincts of film producers (Baker and Faulkner 1991, Sorenson and Waguespack 2006), suggesting that they may play a particularly consequential role for profitability. This mechanism can be tested by introducing a proxy for how much multidivisional firms leverage on producer-sharing across their different divisions to achieve higher investment returns.

The first column of Table 4 reports panel fixed-effects regression models of this mechanism. The explanatory variable of interest, in addition to *Multidivisional*, is the share of a firm's *film producers that are participating in more than one division of the multidivisional firm in a given year*. This variable is defined as a scale-free ratio at the firm level: the number of distinct producers in the firm's projects, minus the number of those producers that only work in one division, all divided by the number of distinct producers in the firm's projects (mean=0.000694; standard deviation = 0.004). A positive coefficient of this ratio would indicate that producer-sharing is a driver of the positive effects of multidivisional structure on returns. The results in the first column of Table 4 suggest that the input logic is borne out in the data. A one standard deviation increase in producer sharing across divisions leads to a seven percent increase in returns;

thus, a multidivisional strategy is more effective when enhanced with resource-sharing across divisions, the key resource being film producers working for the bottom line of their projects.

Alternatively, divisionalization may lead to higher returns when it helps strengthen the firm's product positioning in the marketplace. A common dimension to segment the feature film market is by genre niches. Through a more active genre concentration strategy, multidivisional firms may seek to strengthen a dominant position in the market; by contrast, little genre overlap across divisions would imply differing specializations inside the multidivisional firm that would not capitalize on the good market position of one division to benefit the others.

The second column of Table 4 tests for this mechanism by introducing the degree of *genre overlap across divisions of the multidivisional firm in a given year*. This variable is defined as a scope-free ratio²² at the firm level: the number of distinct genres of the firm's projects minus the number of genres that are only found in one division, all divided by the number of distinct genres of the firm's projects (mean=0.027; standard deviation = 0.113). As shown in the second column of Table 4, a stronger genre-overlap strategy within multidivisional firms does not statistically impact returns, thus lending no support to the niche-strengthening logic for why multidivisional strategies are value enhancing.

Having found one plausible explanation for the positive effects of a multidivisional strategy, it is also instructive to test for its robustness when entering the same regression as the alternative explanation. The third model of Table 4 introduces the cross-divisional proxies in the same regression. The results show that producer-sharing stays strongly significant. By sharing human talent across their divisions, horizontally divisionalized firms seem to achieve some benefits of integration, a different mechanism for the integration argument proposed by Corts (2001) in *vertically* divisionalized firms.

²²This ratio is scope-free because the number of genres in which a firm participates deflates this firm's scope genre decisions; of course, as any proxy constructed as a ratio, changes in the denominator may alter the interpretation of the whole ratio. For robustness, in an untabulated model I replicated this test of mechanisms by introducing the number of distinct genres as an additional control; the results remained unchanged.

5.4 Multidivisional strategy and star labor incentives

Results in the previous subsection suggest that a labor mechanism *internal* to a multidivisional structure may be driving the superior returns of this organizational form. Might divisionalization also influence *external* labor markets through monetary and non-monetary incentives in order to obtain the advantage documented so far? I explore these alternative mechanisms next.

I first consider whether a multidivisional strategy may affect the *monetary* compensation of high-quality actors contracted for films in a way consistent with higher returns for film companies. Recall that actors are always external to a distribution firm, thus being contracted on the market. Under the monetary incentive conjecture, a multidivisional structure may exert some kind of market power in labor markets and attract actors to participate in films for *lower* wages, so that the overall production cost of films does not increase as much as revenue does (Table 3).²³ To test for this conjecture, I collect all the star salary information available on IMDb,²⁴ obtaining a person-film data set in which the effect of a film's association with a multidivisional firm can be examined.

The first two columns of Table 5 display tests of the monetary incentive mechanism. The first model uses firm (or division) fixed effects as well as year dummies, while the second model also introduces person fixed effects. In both specifications, the coefficient on *Multidivisional* is insignificantly different from zero, suggesting that the adoption of a multidivisional structure in the distribution industry does not affect star salaries.

But a key positional advantage of distribution companies consists of providing media visibility benefits that may constitute significant *non-monetary* incentives for stars. Specifically,

²³The focus of my empirical design is on distribution rather than on production; nevertheless, it is conceivable that production labor markets respond to incentives from distribution companies, as these have substantial negotiation power throughout the vertical value chain of the feature film sector.

²⁴Star salaries have been difficult to collect historically (Chisholm 1997). The resulting 1,112 observations in this auxiliary data set are as much information as I could obtain for the tests, thus falling short of covering all films and all stars in my main tests;. A very small fraction of salary information on IMDb also included variable compensation based on box office revenues; those data points are excluded from the analysis for consistency.

distribution companies can effectively use their marketing and public-relations prowess to generate more media coverage for actors, thus luring them to their films and guaranteeing higher performance (Perren 2012). Under this non-monetary incentive conjecture, a multidivisional structure in the distribution industry would provide benefits to actors through more media visibility in media outlets that may or may not have an affiliation with the distribution company in question. To assess this non-monetary incentive mechanism, I employ the rich data base on media coverage of actors (IMDb) described in Table 1, constructing different dependent variables for actors' appearances in shows and print publications.

The last five columns of Table 5 present the results of how multidivisional structure affects these non-monetary incentives. All models are panel fixed effects at the person-year level. Multidivisional structure has a statistically strong impact on the visibility of actors regardless of the specific media variable studied. While the economic magnitude of these point estimates seems small (as all dependent variables are in logarithms, thus amounting to between 0.7% and 2.6% increments due to the multidivisional strategy), the direction of the effect is consistent with an external labor market influence that gives multidivisional firms an edge to attract key talent and increase film performance. Moreover, it seems natural that distribution companies offer incentives closely related to their core competences in marketing and media relations.

5.5 Does multidivisional strategy affect project selection?

The analysis conducted so far has been restricted to the set of projects that actually become feature films distributed on the market, that is, to projects ultimately handled by distribution companies. However, throughout the vertical chain of the feature film sector, distribution companies have different ways to assess the potential of an idea before it becomes a finished feature film (Elsbach and Kramer 2003, Eliashberg, Hui, and Zhang 2007). Although I have no institutional evidence suggesting that a multidivisional structure would be associated with a

change in these processes in my empirical setting, it might be worthwhile to consider whether project selection may be driving the results. This selection mechanism would amount to starting and discarding more projects and, through this channel, increasing firm performance. If multidivisional firms enact different selection processes, then it might be possible that the multidivisional structure is superior because of selecting more lucrative projects, thus somewhat changing the interpretation of the results obtained so far. I extend my empirical analysis to address this selection conjecture using a hard-to-collect data set.

Specifically, I employ Luo's (2011) sample of 1,863 movie ideas screened by film companies in the creative market to test whether a multidivisional structure leads to changes in the pattern of transactions carried out by these firms. In my analysis, I focus on the number of ideas purchased by each movie firm each year, the mean price paid by the firm for ideas in a given year, and the fraction of ideas that eventually get produced and distributed as feature films. These dependent variables are the most reasonable proxies I could construct to address the selection conjecture using Luo's (2011) data set. However, in untabulated panel fixed-effects regressions of these variables on multidivisional structure as defined throughout the paper, I did not find any statistically significant relationship for any of the three dependent variables. To the extent that a multidivisional structure appears inconsequential for selection processes, the interpretation of the main results of the paper remains unchanged.

5.6 Further evidence on robustness

Measuring the relationship between multidivisional structure and outcomes hinges on whether the variables capturing both the main statistical influence of multidivisional structure and the mechanisms linking structure to outcomes are suitable. I now provide further evidence on the robustness of both types of variables. First, because some film distribution companies, years after becoming multidivisional, continued their addition or creation of divisions, it is important to see

whether the dummy *Multidivisional* in all specifications used so far is suitable. In robustness tests, I expanded the models of Table 2, 3 and 4 to also include the marginal effect of the third, fourth, and fifth division of multidivisional firms. Overall, these untabulated results did not alter the findings of the specification using the multidivisional dummy: the first move into divisionalization is the one that most clearly relates to changes in outcomes.

Moreover, besides the robustness of the proxies for mechanisms described in Section 5.3, it is important to see whether these within-firm mechanisms are picking up a wider cross-firm phenomenon that might be muddling the analysis. Specifically, the evidence shown thus far is consistent with an intra-firm, cross-divisional sharing of human talent as partly responsible for the net benefits of a multidivisional strategy. Alternatively, I also explored whether producer sharing *across-firms in the market* might be related to performance; this alternative proxy would be meaningful not only for multidivisional firms but for uni-divisional, as well. However, in an untabulated model I found no evidence of a statistical relationship between cross-firm producer sharing and economic returns. The influence of intra-firm policies is therefore distinct from that of industry-wide practices in shaping the value consequences of the multidivisional form.

6 Matching Analysis

The preceding analysis shows that the multidivisional strategy enacted in the film distribution industry enhances economic value. However, from the institutional details in Section 3 it is also clear that multidivisional firms differ from stand-alone firms in various ways. It is therefore possible that the outcomes of these firms' distribution efforts might be wrongly attributed to a multidivisional strategy, even in the face of very detailed project- and firm-level fixed-effects regression results. Because no instrumental variable or natural shock generating multidivisional structures in the cross-section over time is available here (or in the literature), showing the robustness of the estimation approach is particularly important.

To address this identification issue, I form matched samples of projects from multidivisional firms and stand-alone firms using Abadie and Imbens's (2006) technique. Matching on observable characteristics has been effectively used to distinguish the different investment patterns across firms (e.g., Ozbas and Scharfstein 2009) but the project-by-project nature of the film setting makes it particularly appealing here. To see this, note that in the cross-industry literature, firms are typically too coarsely similar with one another to allow for a reasonable match on firm-level characteristics. By contrast, the within-industry analysis conducted here is based on thousands of individual projects of multidivisional and uni-divisional firms, so that matching may be achieved at a finer level of disaggregation, enhancing the validity of the approach. In essence, taking one project of a multidivisional firm and an almost exactly equivalent project of a uni-divisional firm is analogous to making organizational form random.

To implement this idea, each project of a multidivisional firm is matched to its nearest neighbor among uni-divisional firms based on *exactly* the year of release and the genre of the film, and *approximately* on the three firm-level size variables employed in previous models. Panel I of Table 6 details the results of these matching models, reporting average treatment effects (A.T.E.) and average treatment on the treated (A.T.T.) estimates. The distinction between these measurements of treatment is important because some of the power in the panel fixed-effects regressions obtained so far may be coming from comparing multidivisional firms with uni-divisional firms that never become multidivisional.

The results in Panel I of Table 6 are consistent with a positive influence of multidivisional strategy on investment returns, thus largely confirming the linear fixed-effects regression findings. The treatment effects of divisionalization appear to be always smaller when measured only on the treated firms, suggesting that in fact some, though not all, of the explanatory power of the multidivisional variable is achieved from variation across firms rather than within firms. Moreover, the point estimates suggest a large impact of multidivisional structure on returns,

ranging between a 38% (A.T.T.) and 86% (A.T.E.) increment in returns.

To further exploit the project-level detail of the data, Panel II of Table 6 employs five project-level variables to obtain the approximate matches, in addition to all the matching variables of Panel I, as well. The advantage of using these micro variables — whether the film is originally in English, the run time of the film in minutes, whether the film is R-rated, the total number of film principals involved in the film, and the user rating of the film — is that the comparison between multidivisional and uni-divisional firms is narrowed down to internal characteristics of specific projects. The results displayed in Panel II are largely similar to those obtained throughout; multidivisional structure is associated with an increment in returns ranging from 43% (A.T.T.) to 78% (A.T.E.). Moreover, the magnitudes of the point estimates in these matching models are commensurate to those in all previous models, suggesting that the results are not heavily dependent on the estimation technique, and are broadly consistent with other work on the performance implications of managerial decisions (e.g., Harris, Siegel, and Wright 2005).

7 Conclusion

In this paper, I studied the influence of multidivisional structure on investment returns using data on thousands of projects in the film distribution industry in the United States, a setting in which divisionalization exists without horizontal diversification. The findings are consistent with a positive effect of multidivisional strategy on investment returns; across different levels of data aggregation, companies that are divisionalized achieve higher box office revenues and higher profitability. Interestingly, a multidivisional strategy does not necessarily imply larger investments, thus challenging the notion that a primary mechanism for higher returns is more capital. Rather, the results are consistent with a ‘smarter’ investment behavior enacted by divisionalization. Multidivisional firms that share key human talent more actively across their divisions are the ones that achieve higher returns.

More broadly, the growing corporate practice of divisionalization within industries challenges and enriches the current understanding of the M-form. The study of contracting and organizational practices, beyond size and scope, as fundamental drivers of firm performance is still in its early stages.

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Figure 1: Return Trends before Multidivisional Strategy

The plot displays the differential returns of firms with a multidivisional strategy during the years prior to enacting that strategy. Differential returns are defined as the difference between the return (Box office revenue minus Total investment, divided by Total investment) across each firm's films and the return of the set of all uni-divisional firms' projects in a given year; uni-divisional firms are defined here as those that never enact a multidivisional strategy.

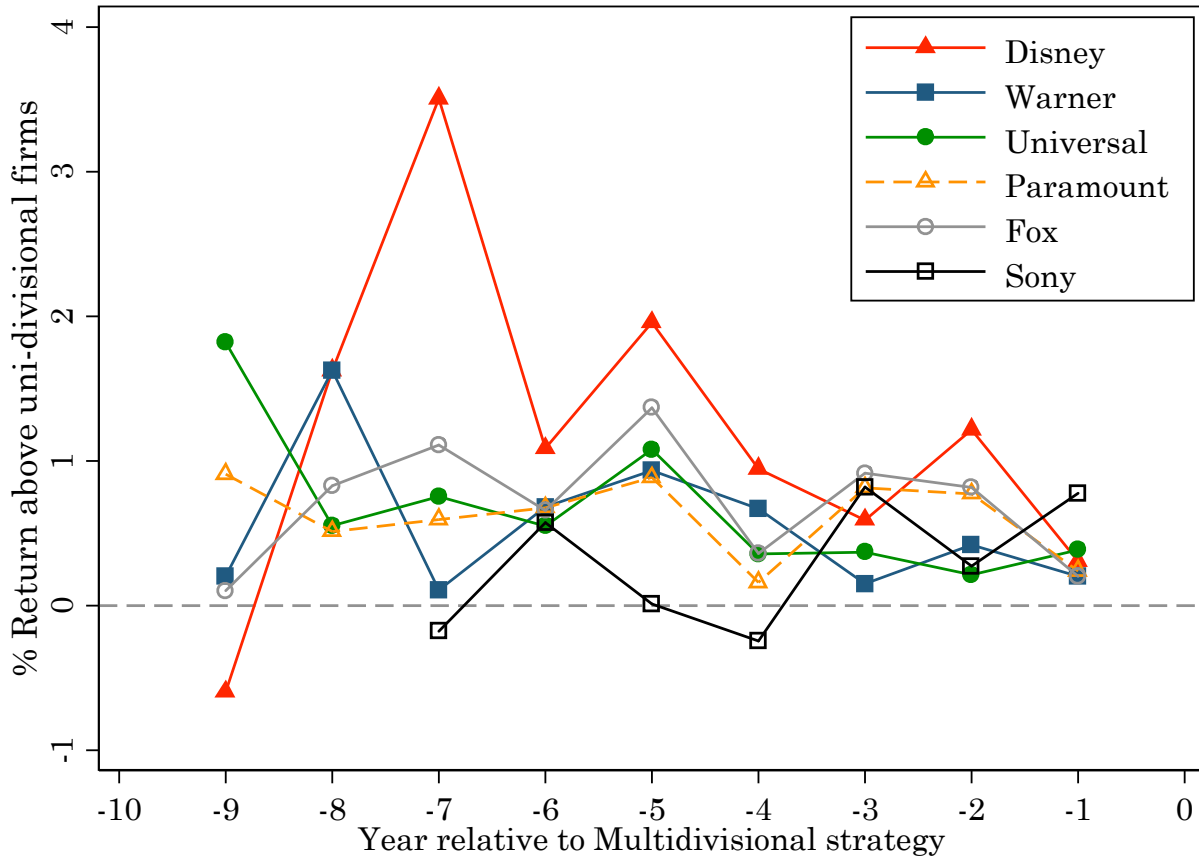


Table 1: Summary Statistics

The data are based on all feature films released in the U.S. theatrical market between 1 January 1985 and 31 December 2009 for which production investment information is available, that is, 80% of the universe of film releases. Multidivisional is a dummy equal to one if the distributor carrying the film is a division of a multidivisional distribution firm. Projects released in the calendar year when a multidivisional strategy starts are excluded from the sample. All project and firm level variables are in logarithms. All monetary variables are in millions of 2009 dollars. Investment data are hand collected from public and private sources by Baseline Intelligence, TNS Media Intelligence, IMDb, and the researcher. Revenue data are from Variety / Nielsen. Return is defined as box office revenue divided by total investment (i.e., production and advertising investment), and logged.

The firm-year level control variables are contemporaneous to outcome variables. (Alternatively, lagging the controls by one year does not change the results). Size is modeled alternatively in three ways for each firm-year: the number of films carried by a firm, the number of distinct producers that worked for the firm's films, and the mean number of total screens used by the firm's films. User rating is the average rating given to the films released by the firm by IMDb users. Media coverage is the sum of individual portrayals of film principals (i.e., actors, directors, producers, and writers) in printed media articles, interviews, pictorials, or covers. Festival exposure is the number of film festivals in which the distributor's films participated. USA production is the fraction of films that have at least one U.S.-based production company behind them.

Variable	Mean	Std.Dev.	Min.	Max.
I. Project-level data ($n=7,646$)				
Multidivisional	0.34		0.00	1.00
Production investment	2.04	1.62	-8.45	5.75
Advertising investment	0.79	2.06	-9.15	4.56
Total investment	2.45	1.50	-5.12	5.86
Revenue	0.78	3.03	-10.35	6.68
Return	-1.57	1.96	-12.32	5.26
II. Firm-Year level control variables ($n=1,326$)				
Multidivisional	0.06		0.00	1.00
Size: number of films	1.58	0.87	0.69	4.19
Size: number of producers	2.85	1.19	0.00	5.93
Size: number of screens	4.98	2.51	0.69	10.17
User rating	1.96	0.16	0.00	2.38
Media coverage	2.26	1.83	0.00	7.10
Festival exposure	1.96	1.40	0.00	5.48
USA production	0.50	0.25	0.00	0.69

Table 2: Multidivisional Strategy and Project Outcomes

This table reports linear regression models measuring the impact of multidivisional strategy on project-level variables following equation (1). Multidivisional is a dummy equal to one for divisions of a multidivisional distribution structure. All variables are defined in Table 1. Robust standard errors double-clustered at the firm level and at the year level are reported in parentheses.

Dependent Variable:	Production Investment (2.1)	Advertising Investment (2.2)	Total Investment (2.3)	Revenue (2.4)	Return (2.5)
Multidivisional	0.263** (0.12)	0.628*** (0.08)	0.367*** (0.09)	0.775*** (0.15)	0.401*** (0.15)
Size: number of films	0.034 (0.11)	0.192 (0.12)	0.061 (0.12)	-0.100 (0.16)	-0.105 (0.15)
Size: number of producers	-0.119* (0.07)	-0.242*** (0.07)	-0.161*** (0.06)	-0.230*** (0.09)	-0.078 (0.09)
Size: mean number of screens	0.169*** (0.04)	0.415*** (0.07)	0.208*** (0.04)	0.885*** (0.05)	0.654*** (0.05)
User rating	0.334 (0.42)	0.410 (0.67)	0.430 (0.41)	1.597*** (0.50)	0.958** (0.45)
Media coverage	0.165*** (0.03)	0.062** (0.03)	0.139*** (0.02)	0.010 (0.03)	-0.116*** (0.04)
Festival exposure	-0.102** (0.05)	-0.133*** (0.04)	-0.097** (0.04)	0.003 (0.06)	0.082 (0.07)
USA production	-0.640** (0.26)	-0.191 (0.29)	-0.336 (0.22)	0.359 (0.25)	0.588** (0.28)
Firm (or Div) × Genre Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Quadratic trend × Firm (or Div) F.E.	Yes	Yes	Yes	Yes	Yes
R^2	0.69	0.70	0.76	0.73	0.52
Sample size	7646	6355	6355	7646	6355
Number of clusters ₁ (firms)	467	375	375	467	375
Number of clusters ₂ (years)	26	25	25	26	25

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are heteroskedasticity-robust and double-clustered by firm and by year.

Table 3: Multidivisional Strategy and Yearly Firm Outcomes

This table reports panel regression models of how multidivisional strategy influences firm-year level outcomes as detailed in equation (2). All dependent variables are summed over each firm-year and expressed in logarithms. Return is defined as the logged ratio of the sum of box office revenue of all films of the distributor in the year divided by the sum of total investment (i.e., production and advertising investment) of all films of the distributor in that year. Multidivisional is a dummy equal to one for firms that have a multidivisional operation. Control variables are defined in Table 1. Robust standard errors clustered at the firm level are reported in parentheses.

Dependent Variable:	Production Investment	Advertising Investment	Total Investment	Revenue	Return
	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)
Multidivisional	-0.244 (0.18)	-0.163 (0.20)	-0.224 (0.25)	0.323*** (0.12)	0.524** (0.24)
Size: number of films	0.948*** (0.16)	0.865*** (0.18)	0.940*** (0.17)	1.232*** (0.10)	0.276 (0.22)
Size: number of producers	0.066 (0.11)	0.092 (0.12)	0.031 (0.10)	-0.026 (0.06)	-0.070 (0.14)
Size: mean number of screens	0.185*** (0.04)	0.398*** (0.04)	0.224*** (0.04)	1.070*** (0.02)	0.844*** (0.04)
Standard deviation of budgets	0.030 (0.02)	0.037 (0.03)	0.024 (0.03)	-0.007 (0.02)	-0.026 (0.03)
User rating	-0.088 (0.34)	-0.448 (0.40)	-0.041 (0.25)	0.492** (0.24)	0.495 (0.39)
Media coverage	0.188*** (0.05)	0.095* (0.05)	0.120*** (0.04)	0.038* (0.02)	-0.071 (0.04)
Festival exposure	-0.057 (0.06)	-0.018 (0.07)	-0.034 (0.05)	0.101*** (0.03)	0.122** (0.06)
USA production	-0.981** (0.24)	-0.430* (0.23)	-0.424* (0.22)	-0.162 (0.10)	0.277 (0.27)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Quadratic trend \times Firm F.E.	Yes	Yes	Yes	Yes	Yes
R^2	0.74	0.45	0.49	0.91	0.56
Sample size	1326	1136	1136	1326	1136
Number of clusters (firms)	466	375	375	466	375

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are heteroskedasticity-robust and clustered by firm.

Table 4: Cross-Divisional Policies and Yearly Firm Profitability

This table reports panel regression models exactly as in Table 3 but extending the specification to assess how cross-divisional policies affect profitability. Producer sharing across divisions is the share of a firm’s film producers that are participating in more than one division in a given year. Genre overlap across divisions is the fraction of film genres of a firm’s total genre portfolio that are present across more than one division. Robust standard errors clustered at the firm level are reported in parentheses.

	Dependent Variable: Return		
	(4.1)	(4.2)	(4.3)
Multidivisional	0.462** (0.22)	0.520** (0.23)	0.458** (0.22)
Producer Sharing across Divisions	17.871*** (3.86)		17.939*** (3.87)
Genre Overlap across Divisions		0.227 (0.50)	0.258 (0.42)
Size controls as in Table 3	Yes	Yes	Yes
Other controls as in Table 3	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Quadratic trend \times Firm F.E.	Yes	Yes	Yes
R^2	0.56	0.56	0.56
Sample size	1136	1136	1136
Number of clusters (firms)	375	375	375

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are heteroskedasticity-robust and clustered by firm.

Table 5: Multidivisional Strategy and Star Labor Incentives

This table reports regression models of how multidivisional strategy influences actors' incentives. The left-hand side panel uses data on actor-film combinations detailing the salary received by the actor for that film (in logarithms of millions of 2009 dollars). The right-hand side panel uses data collapsed at the person-year level detailing the amount of media coverage actors get in a given year (all variables in logarithms): the number of live-media shows in which actors appear as themselves, the number of interviews with them in printed media, the number of articles about them, the number of pictorials in magazines, and the number of magazine covers featuring them. Multidivisional is a dummy equal to one for firms that have a multidivisional operation. Actor's years in the data is a person-specific, time-moving proxy for experience. Because the person-year level data (right-hand side panel) is not based on specific films but on all the coverage that each actor receives in a given year, it is important to clean the sample to assess whether the actor was exposed to multidivisional firms. Thus, excluded from the sample are all person-year observations in which an actor has worked both in films of multidivisional firms and also in films of uni-divisional firms; thus, all observations in the right-hand-side sample are on person-year combinations for which multidivisional firms are either 100% or 0% of an actor's jobs that year. Robust standard errors clustered at the firm level are reported in parentheses.

<i>Level of Observation:</i> Dependent Variable:	<i>Person-film</i>		<i>Person-year</i>				
	(5.1)	(5.2)	Media Coverage		(5.5)	(5.6)	(5.7)
	Salary		N. Self shows	N. Interviews	N. Articles	N. Pictorials	N. Covers
Multidivisional	0.054 (0.17)	-0.120 (0.14)	0.026*** (0.00)	0.011*** (0.00)	0.013*** (0.00)	0.007*** (0.00)	0.012*** (0.00)
Actor's years in the data	0.149*** (0.01)	0.154*** (0.03)	0.013*** (0.00)	0.001* (0.00)	0.002*** (0.00)	-0.001*** (0.00)	-0.000 (0.00)
Person Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Firm (or Division) Fixed Effects	Yes	Yes	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.39	0.79	0.69	0.40	0.47	0.52	0.54
Sample size	1112	1112	324718	324718	324718	324718	324718
Number of clusters (firms)	57	57					
Number of clusters (persons)			203607	203607	203607	203607	203607

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are heteroskedasticity-robust and clustered by firm or by person, as indicated.

Table 6: Nearest Neighbor Matching of Multidivisional Strategy Outcomes

Each entry is from a different matching model explaining project-level outcomes. The table implements Abadie and Imbens's (2006) nonparametric nearest neighbor matching estimator using multidivisional structure as treatment. The unit of observation is each film. Each film of a multidivisional firm is matched with a uni-divisional film using *exactly* the same year of release and film genre. Additionally, each treated observation is matched *approximately* using other variables, as follows. Panel I uses for approximate matches three firm-year level variables that capture size: the number of films, the number of producers, and the mean number of screens. Panel II also uses for the approximate matches the same three size variables, and additionally five project-level variables: whether the film is originally in English, the run time of the film in minutes, whether the film is R-rated, the total number of film principals involved in the film, and the user rating of the film. Each panel reports average treatment effects (A.T.E.) and average treatment on the treated (A.T.T.) estimates. Only coefficients on the treatment effect of *Multidivisional* and their robust standard errors in parentheses are shown.

Dependent Variable:	Production Investment	Advertising Investment	Total Investment	Revenue	Return
I. Matching at the Firm-Year level					
A.T.E.	0.776*** (0.08)	0.962*** (0.11)	0.735*** (0.07)	1.766*** (0.14)	0.862*** (0.11)
A.T.T.	0.397*** (0.08)	0.339*** (0.12)	0.295*** (0.08)	0.691*** (0.14)	0.381*** (0.11)
II. Matching at the Firm-Year level and at the Project level					
A.T.E.	0.714*** (0.08)	0.958*** (0.11)	0.701*** (0.07)	1.648*** (0.16)	0.775*** (0.12)
A.T.T.	0.469*** (0.06)	0.507*** (0.09)	0.429*** (0.06)	1.003*** (0.11)	0.429*** (0.09)

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors are heteroskedasticity-robust.