

“Make-or-Buy” in Movies: Integration and Ex-post Renegotiation.

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Abstract

In this paper, I investigate the determinants of the boundaries of the firm in the movie industry using a new data set from the Spanish movie industry. These data document movie contractual renegotiation and allow me to construct a direct measure of contractual complexity for each movie. Linking this measure to the movie ownership structure, I find that movies renegotiated ex-post more often are more likely to be distributed ex-ante by integrated distributors and more likely to show in distributor-owned theaters. This is consistent with transaction cost economics theories of integration.

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1 Introduction

Since Coase (1937), economists have developed different theories of the firm to address the question of why firms vertically integrate (Williamson (1979); Klein, Crawford and Alchian (1978); and Grossman and Hart (1986)). While there is general agreement that the existence of appropriable quasi-rents drive firms towards integration, existing theories differ on the mechanism. Williamson (1979) and Klein, Crawford and Alchian (1978) focus on ex-post hold-up problems, while Grossman and Hart (1986) suggest that ex-ante incentives to invest are responsible. Unfortunately to this point, data limitations have not allowed appropriate tests of these theories. We seldom observe the same firm “making and buying” the same input, and therefore it is difficult to build the appropriate counterfactual (Monteverde and Teece (1982) is an exception of this). The existing literature (Masten (1984), Joskow (1987)) addresses this issue indirectly by examining the relationship between measures of the existence of quasi-rents, such as engineering complexity or asset specificity, and integration decisions.

This paper empirically investigates the determinants of vertical integration in the Spanish movie industry by using a direct measure of ex-post contractual costs. I construct this measure from observing contract renegotiation outcomes of movies distributed by integrated and non-integrated distributors in non-integrated theaters. I use across movies variation in the frequency of renegotiation to study differences in movie ownership structure and outsourcing of movie exhibition services.

In the movie industry, distributors contract with an exhibitor to show their movies on her screen. Box office revenues are split using revenue-sharing contracts specifying weekly sharing terms. Despite the detail in the contract, the distributor and exhibitor use an ex-post renegotiation mechanism to adjust sharing terms in the event of unexpectedly low audience turnout.

In this paper, I study the relationship between integration and the frequency of renegotiation, interpreting the latter as an indicator of contractual complexity.¹ From a model of the institutions and incentives of agents in this industry, I develop two main testable implications: integrated distributors should distribute movies of higher contractual complexity, and integrated distributors should more often exhibit their contractually complex movies in their own theaters. I test these two implications using a new data set from the Spanish movie industry.

This new data set contains theater-level movie-screenings data from 277 theaters in Spain from January 2001 to June 2002. I combine this data set with another data set from a non-integrated exhibitor. This second data set allows me to observe the weekly renegotiation of contractual terms for 369 movies playing during the same period of time as the first data set. I also collected information about the movies' distributor, nationality, total Spanish box office revenue, total US box office revenue and release week in Spain. The combination of both data sources allows me to examine how the movie-level propensity of renegotiation correlates with movie ownership and use of distributor-owned theaters within the sample of 369 movies.

The evidence suggests that movies that are 50 percentage points more likely to be renegotiated are between 17 and 20 percentage points more likely to be distributed by an integrated distributor. Similarly, integrated distributors with movies renegotiated 50 percentage points more often will increase the use of their own theaters between 3 and 5 percentage points. I interpret this result as evidence that integrated distributors specialize in movies that are contractually more complex, and that they use their own theaters more often for those of their own movies that are contractually more complex. These findings are consistent with integration theories based on the savings of transaction costs (Coase (1937), Williamson (1979), and Klein, Crawford and Alchian

¹Those movies renegotiated more frequently must be those that were more complex to design ex-ante. This is why I use the terms "contractual complexity" hereafter.

(1978)), however they cannot reject the potential importance of competing theories focusing on ex-ante investment decisions, agency theories or strategic motives such as market foreclosure for anticompetitive reasons.

Apart from the work already mentioned above, other papers documenting the determinants of vertical integration include Baker and Hubbard (2003), who study the effect of changes in monitoring technology on integration patterns in the trucking industry, and Azoulay (2004), who shows how the information intensity of different activities affect outsourcing decisions in the pharmaceutical industry. Prior work studying contractual arrangements in the movie industry include Chisholm (1997), Goettler and Leslie (2005) and Corts (2001). Chisholm (1997) documents the different types of actors' contracts in the industry between 1959 and 1989, while Goettler and Leslie (2005) examine cofinancing arrangements between studios to manage risk and diversify their individual portfolios. Finally and directly related to the main focus of the paper, Corts (2001) studies the consequences of integration of production and distribution in the US movie industry. This paper contributes to the literature in that it documents vertical integration in the movie industry and provides a direct test for the relation between contractual complexity and integration.

The paper is structured as follows. In the next section I describe the structure, institutions and contractual form that governs the motion picture industry, as well as providing two testable implications consistent with the institutional background provided. Section 3 describes the data. Section 4 contains the empirical results which are robust across specifications and support the conclusion that movies with higher renegotiation frequencies are more likely to be distributed by an integrated distributor. Similarly, the results also indicate that integrated distributors are more likely to show these movies in their own theaters as opposed to other firms' theaters. I close section 4 with a discussion of which theory of vertical integration theory is more likely to support the results and comment on the competing theories. Section 5 concludes.

2 Institutional Details and Contracts in Movies

This section describes the institutional and market framework, drawing heavily from books (Squire (1992), Caves (2000)), visits, and previous related work (Gil (2004)). The movie industry is divided into three sectors: production, distribution, and exhibition. The production sector includes all those agents who produce movies. Producers use distributors to place their movies on the exhibitors' screens. Since this paper studies contractual agreements between distributors and exhibitors, I concentrate my analysis on these two sectors.

Distributors advertise their future movies to exhibitors and agree to a number of copies of each movie with each exhibitor. This helps the distribution company to predict exhibitor demand for each of their movies. In the case of integrated distributors, this helps distributors also decide how many copies of the movie they will demand for their internal theater branch. Closer to the time of release, distributors negotiate with exhibitors regarding at which theater the movies will play. Once the parties agree on the theaters used, the distributors send contracts for each movie-theater pair to the exhibitor. These contracts may differ per theater even though they may be for the same movie and same release week. Normally the exhibitor accepts the contract sent by the distributor and the relationship begins.²

Distributors' and exhibitors' objective functions and incentives differ in that the former maximize box office revenues and revenues from ancillary markets (DVD, home video and TV), whereas the latter maximize box office and concession revenues. Since movie attendance is typically higher during the first weeks of its run, exhibitors want to increase the turnover of movies more than distributors do. The former see concession revenues increase with the number of moviegoers where the latter see the revenue from future ancillary markets increase with the movie's run length in

²In interviews, managers shared that in a few occasions, exhibitors have sent back the initial contracts sent by distributors requesting better terms. Distributors always seem to accommodate the exhibitors' demands.

theaters. This generates contractual tensions between the two parties that they try to address using revenue-sharing contracts.

2.1 Contractual Environment

Distributors and exhibitors use revenue-sharing contracts to deal with the problems above. Each contract specifies the names of the distributor and exhibitor involved in the transaction, the movie that the distributor will provide, and the theater where the movie will be playing.³ Each contract specifies the weekly share of movie-generated revenue kept by the distributor. By default, the remaining amount of revenue is kept by the exhibitor. The revenue-sharing terms for the distributors usually decline from 60% to 40% and this decline varies across movies and theaters.

The contract that distributors and exhibitors use does not specify how long the movie must remain on screen. The exhibitor decides when to stop showing the movie. Since the optimal time to discontinue a movie is affected by the arrival of some information such as other movies' releases, it is not in their interest to commit to a determinate termination date ex-ante.⁴ The arrival of new information⁵ is often not contractible and constitutes part of the contractual incompleteness.

Additionally, even though it may be possible to contract on output, it is not possible to contract on the exhibitor's opportunity cost of showing the movie an extra week since that value is not observable nor verifiable. Having a fully contingent contract in this case is very expensive, and probably unfeasible. The simplicity of contracts and the contractual incompleteness surrounding the interactions between distribution and exhibition lead both parties to use other mechanisms not specified explicitly on the contract.

³Each contract is screen specific. That means that if a movie is shown on more than one screen in a theater, the distributor and exhibitor must write down a different contract for each screen used.

⁴If the movie performs below expectations, both are worse off. If, on the contrary, the movie performs above expectations, signing a new contract could lead to opportunistic behavior from the distributor's side when negotiating the new contract.

⁵Some of this new information could come in the form of a change in the weather or externalities between movies and major sport events on TV.

In this industry, firms adjust revenue sharing terms ex-post.⁶ After exhibition managers decide to stop the run of a movie, they examine the outcomes of the initial contract and the relevant cost conditions in each of the weeks. Managers evaluate box office revenues and adjust these through renegotiation of the sharing terms specified in the contract. Therefore, renegotiation only takes place after the movie run has ended, and occurs independently across theaters showing the same movie.⁷ Even though renegotiation responds to unobservable causes, exhibition managers claim not to take advantage of it. According to them, the continuous contact between firms in the market softens incentives to behave opportunistically (this applies to both distributors and exhibitors). Therefore, managers describe the process of renegotiation as one where they look at the amount that the initial contract term attributes to the exhibition firm, and judge whether that amount is “adequate” to cover their costs.⁸

2.2 Integration Costs and Benefits

The renegotiation mechanism is costly. The non-integrated distributor must monitor movie performance to evaluate the exhibitor’s requests, as well as devote certain amount of time and effort to bargaining. If we consider that a distributor may be distributing more than a movie at a time, and that this movie might be playing in hundreds of screens, the amount of resources invested in adjusting the sharing terms ex-post could be potentially enormous.⁹ These costs may be attenuated because of positive correlation of movie performance across theaters. Despite this correlation,

⁶Exhibition contracts in the US usually include a fixed lump sum payment (called "nut shell") and a sharing term (usually 90%-10%). Despite this, US contracts also specify a minimum percentage of revenues which distribution revenues cannot fall under. Spanish contracts resemble the latter and do not include "nut shell", therefore firms only adjust sharing terms.

⁷Renegotiation is theater specific and the “discounts” average 6 percentage points (see Gil (2004)).

⁸Epstein (2005) describes how contractual renegotiation between distributors and exhibitors also takes place in the US movie industry. This is an indication that the institutional details and renegotiation mechanism described in this section apply to movie industries in other countries.

⁹Interviews with managers revealed how costly this renegotiation process can be. If a movie is playing in 100 different screens and 50% of those need ex-post renegotiation, the distribution managers need to discuss 50 different cases with different theater managers. This entails many hours of negotiation and work. This cost increases if the distribution manager carries more than one movie.

differences across theaters in local shocks and market structure generate differences in movie performance. Therefore, distributors still need to monitor and follow up movie performance in each individual theater that the movie is being screened on.

Nevertheless, these are costs not incurred by integrated distributors.¹⁰ Integrated distributors still need to monitor movie performance, but for other reasons. Integrated distributors need to be informed to make the right decisions regarding movie run length, new movie releases, and other decisions normally decided by independent exhibitors. Therefore, even though integrated distributors avoid incurring the bargaining cost by diverting activity within the firm, they may incur other costs such as managerial overload and financial costs.

Integrated distributors that distribute movies that need more frequent contract renegotiation may use their own theaters in order to avoid these costs, whereas integrated distributors that distribute movies that need less frequent contract renegotiation may contract with the theaters of others. Therefore, when distributors compete at the studio level for the distribution rights of different movies, integrated distributors have a comparative advantage in dealing with contractually complex movies (local and arthouse movies). These types of movies are different from other movies because distributors and exhibitors do not have market references for these movies.¹¹ Thus, distributors with integrated exhibitors will specialize in these types of movies (local and arthouse movies) whereas non-integrated distributors will specialize in movies previously released with less uncertain profiles.¹²

¹⁰Integrated distributors avoid incurring these costs for their own movies playing in their own theaters. They will still incur renegotiation costs for their movies playing in the theaters of others and for the movies of others playing in their theaters. There is no renegotiation between distributor and exhibitor of a same firm because the latter works under the supervision of the former.

¹¹U.S. and U.K. movies, as well as big productions from other countries, have been marketed and achieved success in international markets. Distributors and exhibitors use this previous performance as an indicator of potential success. This is true not only for the Spanish industry, but also for other similar countries that rely mostly on foreign movie supply.

¹²Historical cultural differences among European countries makes European releases almost non-informative for the success of a movie in Spain.

2.3 Testable Implications

Under the description above, we can draw two different testable implications. The first relates to the type of movie associated with different organizational forms. That is, which movies are more likely to be distributed by a vertically integrated distributor? The second examines how integrated distributors use their internal theaters. Under this structure, we have two main testable implications:

- Integrated distributors will distribute those movies with higher expected renegotiation costs, everything else constant. That is, holding box office constant, the *higher the movie renegotiation propensity is, the more likely it is an integrated firm will distribute the movie as opposed to a non-integrated firm.*

- Similarly, *the higher the movie renegotiation propensity is, the more likely an integrated firm will use its own theaters to exhibit a movie as opposed to using the theaters of others.*

In the next section I present the data and test these implications.

3 The Data

During 2002 and 2003, I collected an extensive data set on movie screenings in Spain from both site interviews and the leisure sections of two major Spanish newspapers. As a result, I obtained movie screenings data for 277 theaters between January 2001 and July 2002.¹³ I combined these data with data on weekly contract renegotiation outcomes from movies shown by a non-integrated exhibitor during the same period.¹⁴ I collected information on each movie's distributor, nationality, total box office revenue in Spain, total box office revenue in the US, and release day in Spain. I

¹³Data for 96 out of the 277 theaters were obtained out of site interviews with 10 exhibitors.

¹⁴The exhibition firm providing the data runs 25 theaters that are spread around 16 cities located in 11 different provinces. Its theaters vary in size from one to sixteen screens and their total seat capacity goes from four hundred to roughly four thousand seats. The towns where the theaters are located vary greatly in market size and income.

obtained this information mainly from Spanish government agencies and movie industry web pages. Using the Spanish and US box office, I created a variable to control for the deviation from box office expectations for each movie¹⁵ using the residual from a regression of the Spanish box office on US box office.¹⁶

A distributor qualifies as integrated if it owns at least one theater. There are 5 integrated distributors out of the 21 main distributors in Spain, which are all represented in the sample. The data cover movies from all 5 integrated distributors, and it contains information on all the theaters of three of the five existing integrated distributors and for half of the theaters of the fourth integrated distributor. The integrated distributor for whom theater information is missing only owns a few theaters in two small cities in the north of Spain that fell outside our geographical coverage.

Even though I obtain the renegotiation outcome data from a non-integrated exhibitor, this exhibitor showed movies from both integrated and non-integrated distributors. Therefore I can compute how often the firm renegotiates the movie contract term, and combine this information with the previous set of data. In this paper I take advantage of the fact that non-integrated theaters play integrated and non-integrated movies and assume that the renegotiation frequency of movies from integrated distributors is the same for integrated and non-integrated theaters. Therefore, when a distributor decides to use one of its own theaters instead of a theater of others, they are avoiding the cost of that same level of renegotiation. Almost 60% of the movies have an average renegotiation frequency of higher than 0.9, and the average movie renegotiation frequency is 73%

¹⁵Gil (2004) studies the causes of renegotiation and shows the empirical correlation between renegotiation frequency and deviation from revenue projections using US box office revenue.

¹⁶Exhibition managers suggested that the most valuable piece of information used in their bargaining is the performance of the movie in the US. They see movies with no US release as movies where success is very difficult to assess. Given that the timing of international movie releases is not exogenous, movies with same-day release across countries or very close dates are very likely to be very successful movies (economies of scale in marketing or piracy concerns). This fact erases concerns about the lack of full information on movie performance when US and Spanish release are too close to each other.

(see descriptive statistics in Table 1).

In the end, I have complete data for 369 movies. These are distributed by 21 different distribution firms of different sizes and background. The movies come from 16 different countries of which USA, Spain, UK and France are the most represented. Table 1 shows summary statistics of the 369 movies. I divide the analysis of these movies by organizational form of their distributor. In the sample, 35% of the movies are distributed by integrated distributors, and these open their movies in their own theaters in 13% of their movie openings in the sample. On average, movies distributed by integrated distributors have 19 percentage points higher renegotiation frequencies, are 9 percentage points more likely to be produced in Spain, are 8 percentage points less likely to have been released in the US, and within the set of movies released in the US, movies distributed by integrated distributors collected \$13 million less revenue in the US prior to their Spanish release. If anything, movies distributed by integrated distributors collect the same level of revenue and deviate from revenue predictions the same as movies distributed by non-integrated distributors in the Spanish market. The differences in the right column of Table 1 indicate that integrated distributors are more likely to distribute movies that are renegotiated more often, movies that were not released in the US prior to their Spanish release, and movies with lower box office revenues during their US run.

In Spain there are roughly 4,000 screens in 1,200 theaters. Therefore the sample of 277 theaters represents 23% of the total number of theaters in Spain. Nevertheless, these 23% of theaters contain 35% of the screens in the country and collect almost 50% of all box office revenue in a year. My sample contains the full population of theaters in Madrid and Catalonia regions, and partial population of theaters in the most populated provinces (after Barcelona and Madrid). Therefore the sample here is missing theaters in areas with low population density and historically low levels of box office revenues, and this shortcoming is unlikely to be important.

First-run theaters release around 800 new movies every year, and this paper uses a sample of 369 of these. While this represents only roughly 50% of the total number of movies released in a year, these movies account for more than 80% of the total revenues in the first-run theater market. This is unlikely to bias the empirical results once observations are weighted by the volume of revenue.

4 Empirical Evidence

Next, I will describe the statistical analysis of the data which tests the implications described in the previous section. These tests use the renegotiation frequency of each movie as a proxy for the renegotiation costs of each movie. The main problem with this measure is that distributors make their integration decisions ex-ante, whereas the renegotiation frequency variable used in my empirical analysis is an ex-post variable. This creates endogeneity problems in the interpretation of the results.

To reconcile this discrepancy, I assume that renegotiation frequency is a measure with error of the contractual complexity that distributors use to make their decisions. Previous work (Gil (2004)) shows that renegotiation frequency can be explained by ex-ante information such as whether the movie was released previously in the US, the total US box office revenue, ex-post surprises from revenue expectations, and whether the movie is produced in Spain. In my empirical analysis here, I include the four variables (US release, US box office, deviation from expectation, and Spanish movie) together with the ex-post renegotiation frequency. The inclusion of an explanatory variable with measurement error may bias the coefficient results down (attenuation bias). This just means that the results are a lower bound of the true effect. To deal with the problem instead, we can use an instrumental variable approach. Following Green (1999), we order observations by renegotiation frequency and use the rank as an instrument for the endogenous variable. This instrument has the property that it is correlated with the renegotiation frequency and uncorrelated with the integration

decisions of movie distributors.

I divide the empirical analysis here into two parts, first examining the relation between renegotiation frequency and the distributor’s organizational form and second examining the relation between renegotiation frequency and the use of distributor-owned theaters.

4.1 Distributor Organizational Form

The first testable implication suggests that movies of higher renegotiation frequency should be more likely to be distributed by an integrated distributor than by a non-integrated distributor. I test this implication by constructing a dependent variable VI_i for each movie i . VI_i takes the value 1 if movie i is distributed by an integrated distributor, and 0 otherwise. I use the following linear specification

$$VI_i = \alpha_0 + \alpha_1 \text{RenegFreq}_i + \alpha_2 \text{USRelease}_i + \alpha_3 \text{USBoxOff}_i + \alpha_4 \text{Deviation}_i + \alpha_5 \text{Spain}_i + \alpha_t^i + \epsilon_i, \quad (1)$$

where RenegFreq_i is the renegotiation frequency of movie i , USRelease_i is a dummy variable that takes value 1 if movie i was released in the US and 0 otherwise, USBoxOff_i is the box office revenue collected by movie i in the US (takes a value of 0 if $\text{US}_i = 0$), Deviation_i is the difference between actual and expected Spanish box office given US box office (takes a value of 0 if $\text{US}_i = 0$), Spain_i is a dummy variable that takes value 1 if movie i was produced in Spain, α_t^i are release month fixed effects, and ϵ_i is a disturbance.

Table 2 reports the results of the estimation of (1) using OLS and 2SLS. I find that movies with higher renegotiation frequencies are more likely to be distributed by an integrated distributor. This result is robust across all OLS specifications in the table (columns 1 to 6), and the coefficient ranges between 0.34 and 0.41. The effect is strongest when including month of release fixed effects,

which control for changes in the exhibitor's opportunity cost that occur from month to month. Notice that due to measurement error in the explanatory variable of interest, these coefficients are a lower bound of the true effect of renegotiation frequency on the organizational form of the movie distributor.

This result is robust to the introduction of prior movie information (US release and US box office), exhibitor's opportunity cost (month fixed effects) and surprises in movie performance (deviation from revenue expectation). Notice that US release and US box office revenue do not seem to have any explanatory power when I include renegotiation frequency as a right-hand side variable. This means that any information in the other two variables that helps to predict the distributor's organizational form is contained in the renegotiation frequency. This result rejects alternative explanations such as that movies with higher renegotiation frequencies may also have lower/higher revenue variance or lower/higher revenue expectations. Since I am examining the Spanish theater market, these two variables provide information on the variance and expectation of revenues that managers face prior to the movie release.

Finally, column 7 addresses the measurement problem by using 2SLS and the rank of renegotiation frequency as an instrument. The results indicate that instrumenting for renegotiation frequency leads to a lower coefficient, rather than the higher value we would expect in the case of measurement error. This may mean that rank order is not a good instrument, or that measurement error is not a significant concern.

4.2 Integration of Exhibition Services

The second testable implication is that movies of higher renegotiation probability should be exhibited in distributor-owned theaters more often. I test this implication by constructing a variable $ShareVI_i$, which is the ratio of the number of distributor-owned theaters used for the release of

movie i divided by the total number of theaters used for the release of movie i in the data. I use the following specification

$$ShareVI_i = \alpha_0 + \alpha_1 RenegFreq_i + \alpha_2 USRelease_i + \alpha_3 USBoxOff_i + \alpha_4 Deviation_i + \alpha_5 Spain_i + \alpha_t^i + \epsilon_i, \quad (2)$$

where all the independent variables are the same as those in the previous subsection.

Table 3 shows the results of estimating equation (2) using OLS (columns 1 to 6) only for the sample of movies distributed by integrated distributors (131 observations). In this case, the results do not change qualitatively from the above section and the coefficient of renegotiation frequency ranges between 0.054 and 0.089. In this case, no other variable (prior movie information or deviations from expectations) seems to matter.¹⁷

See as well that I include a Spanish movie dummy variable. I include this variable in the analysis because exhibitors in this market are subject to special regulation imposed by the Spanish government to protect the local production industry. This regulation dictates that a fixed share of a theater's movies be produced locally. Therefore, non-integrated theaters will demand these movies for reasons other than revenue expectations. This has no effect on the use of distributor-owned theaters. Notice as well that the variables *USRelease* and *USBoxOff* are correlated since both *USRelease* and *USBoxOff* are zero if not a US release, and one and a positive number respectively otherwise. Even though this is a potential concern, the standard deviation of our coefficient of interest does not increase significantly.

Finally, column 7 runs the same regression as in column 6 but using 2SLS. We use again the rank of renegotiation frequency as the instrumental variable and we observe how the coefficient increases from 0.089 to 0.104 but it loses statistical significance. This increase is expected given the previous

¹⁷These results are robust to dropping all those movies with *RenegFreq* equal to 0 or 1.

attenuation bias and the correction introduced with the instrument. Results in this subsection validate the second testable implication above: higher renegotiation frequencies are associated with higher levels of use of distributor-owned theaters.

4.3 Discussion of Results

Once we have established the empirical relationship between ex-post renegotiation and vertical integration it is time to relate this finding to the existing theories of vertical integration. There are four main candidate theories that can explain this result: transaction cost economics, property rights theories, agency theories, and theories relating strategic motives.

The best candidate theory to explain the findings in this paper is transaction cost economics. When integrated distributors decide to distribute movies with higher renegotiation frequencies and decide to open these same movies more often in their own theaters, they are not only saving the costs of renegotiating the contract, but also they are avoiding any ex-post opportunistic behavior that may appear in the ex-post renegotiation process. The fact that the renegotiation process takes places ex-post and that the distortion is mitigated within the firm concurs exactly with transaction cost economics theories of integration.

The first competing theory is the property rights theory of vertical integration. This theory differs mainly in two aspects from the transaction cost economics theories of integration. It focuses explicitly on distortions in ex-ante investments and it does not assume that opportunism mitigates within the firm. This theory clearly does not apply here for two reasons. The first is that there is no ex-ante investment to be made in this market since the movie and theater (two possible assets within the contractual relationship) are long finished products when the two parties (distributor and exhibitor) bargain. The second reason is that in this particular case any chance of opportunism disappears when the activity is done within the same firm. One may think advertising is a possible

candidate of ex-ante investment that would fall within the description of the property rights theories. Given the revenue-sharing contracts used in this industry, distributors have incentives to advertise their films regardless of their organizational form and therefore rules out this theory as a competing explanation for the results of the paper.

A second competing theory is that relating asset ownership, job design and agency theories (Holmstrom and Milgrom (1991) and (1994)). The distinguishing part of this theory with other agency theories is that agents (exhibitors) have several tasks that the principal (distributor) would want them to do. In this case, the principal may want to use job design and asset ownership as tools to balance incentives across tasks and maximize the value of the relationship. This theory is not a good candidate to explain the findings in this paper because distributors and exhibitors do not have different tasks to perform and therefore it is unlikely that integration is used as a way to balance incentives across tasks.

On the other hand, if integration decisions are driven by strategic motives (market foreclosure), integrated distributors would use their market advantage (integrated distributors already have theaters to show movies) to specialize in movies that are less contractually complex. Let us remember that in the Spanish market there is no link between production and distribution. Therefore, integrated distributors may have an advantage when buying movie licenses from producers and international distributors. If bargaining power drove the results in the paper we would see how bigger distributors (more films or more successful films distributed per year) are able to place their worst movies in more theaters. This does not seem to be true for integrated distributors since we show that integrated distributors place their worst movies in their own theaters more frequently than they do in independent theaters.

Alternatively the renegotiation frequency variable can be interpreted as a measure of risk and the results could be driven by lower relative risk aversion of integrated distributors. Larger firms

may be better able to bear risk and take on riskier movies. This is likely not what drives the results because there are a few non-integrated distributors of similar or bigger size than the biggest integrated distributor. If this was the driving explanation we would find no relation between renegotiation frequency and the organizational form of the distributors.

A final possible alternative explanation could be that movies with higher renegotiation frequency also demand higher downstream effort. Gil (2004) shows that those movies that demand of more downstream effort are those with less ex-ante information (not released in the US and local movies). If this is the case, including variables such as *USRelease* and *USBoxOff* would take into account the impact of such an alternative explanation on integration decisions. After doing so, I still observe a positive correlation between renegotiation frequency and integration. Similarly, I also include a Spanish movie dummy variable that helps the analysis to reject possible alternative explanations having to do with spurious correlation between movies with higher renegotiation frequency and local movies due to special knowledge and its consequent downstream effort.

5 Concluding Remarks

In this paper, I empirically investigate the determinants of integration in the Spanish movie industry. I analyze the relationship between ex-post renegotiation costs and ex-ante integration of exhibition services. I argue that distributors anticipate these renegotiation costs, and choose accordingly what movies to distribute and, in the case of integrated distributors, whether to use distributor-owned or independent theaters to exhibit their movies.

I test the implications of integration theories using a new data set of renegotiated contract terms in the Spanish movie industry. I find that integrated distributors are more likely to distribute movies with higher renegotiation frequencies. Similarly, I find that integrated distributors are more likely to use their own theaters for movies of higher renegotiation frequencies. This

implies that integrated distributors specialize in contractually complex movies. The results of this paper are important because of two main reasons: they are a direct test of the relation between contractual complexity and vertical integration, and the results here are consistent with firms making integration decisions based on cost-efficiency of transactions rather than other reasons such as solving ex-ante investment or agency problems, strategic motives or provision of downstream effort.

Future research should address two issues that are left unanswered here. The first issue is why integrated distributors in this industry are integrated in the first place. The results in the paper hint toward the possibility that distributors specialized in contractually complex movies may find optimal to vertically integrate to minimize their operational costs but a definite answer to this question is yet to be found. The second issue is that if contracts are renegotiated all the time what is the value for these firms to write these contracts at all. Investigating these two questions will certainly shed light in the understanding of contracting in the motion picture industry and other industries of similar characteristics.

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Table 1. Summary Statistics

Variable	All	Min	Max	Integrated Distributor	NonIntegrated Distributor	Difference
Integrated Distributor	0.3550 (0.4792)	0	1	1 -	0 -	1 -
Average Use of Internal Theaters	0.0449 (0.0843)	0	0.5000	0.1265 (0.0985)	0 -	0.1265 -
Renegotiation Frequency	0.7333 (0.3484)	0	1	0.8548 (0.0209)	0.6665 (0.0246)	0.1883 (0.0367)***
US Release	0.6395 (0.4808)	0	1	0.5878 (0.0432)	0.6681 (0.0306)	-0.0803 (0.0522)*
US Box Office (\$ millions)	51.0212 (64.6261)	0.0012	404	42.2757 (5.7401)	55.2566 (5.5719)	-12.9814 (8.9516)*
Deviation (€ millions)	0 (2.7901)	-11.54	21.16	0.2612 (0.3499)	-0.1265 (0.2097)	0.3878 (0.3873)
Spain Box Office (€ millions)	2.5704 (4.2747)	0.0016	30.9	2.3878 (0.3715)	2.6709 (0.2782)	-0.2831 (0.4654)
Spanish Movie	0.2033 (0.4029)	0	1	0.2595 (0.0384)	0.1722 (0.0245)	0.0872 (0.0436)**
Observations	369	369	369	131	238	107

Notes: This table reports summary statistics for the variables used in the paper. The sample contains data for 369 movies played in Spain from January 2001 to June 2002. Out of these 369 movies, 238 were released previously in the States. These divide into 77 movies distributed by integrated distributors and 159 movies distributed by non-integrated distributors. The last column shows the difference between the two groups and tests whether their difference is statistically significant different from 0. * means significant at 10%, ** at 5%, and *** at 1%.

Table 2. Movie Renegotiation Frequency and the Organizational Form of the Distributor

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS
Renegotiation Frequency	0.3562 (0.1459)**		0.3413 (0.1537)**	0.3825 (0.1626)**	0.3866 (0.1607)**	0.4131 (0.1708)**	0.3502 (0.1637)**
US Release		-0.0447 (0.0742)	-0.0217 (0.0686)	-0.0189 (0.0691)	0.0467 (0.1225)	0.0411 (0.1177)	0.0375 (0.1164)
US Box Office		-0.0007 (0.0005)	-0.0002 (0.0005)	-0.0001 (0.0004)	-0.0001 (0.0004)	-0.0001 (0.0005)	-0.0002 (0.0005)
Deviation				0.0251 (0.0107)**	0.0239 (0.0103)**	0.0254 (0.0106)**	0.0232 (0.0104)**
Spanish Movie					0.1178 (0.1262)	0.1243 (0.1137)	0.1229 (0.1124)
Constant	0.0938 (0.0963)	0.4060 (0.1553)**	0.1253 (0.1021)	0.0914 (0.0939)	0.0225 (0.1191)	0.0029 (0.1266)	-0.0419 (0.1474)
Fixed Effect	No	No	No	No	No	Month	Month
R-squared	0.07	0.01	0.07	0.08	0.09	0.12	0.12

The dependent variable in all 7 regressions is a dummy variable that takes value 1 if the distributor of the movie is integrated and 0 otherwise. The first 6 columns are results from regular OLS regressions whereas the last column (7) presents results from 2SLS regression using the rank of renegotiation frequency as instrument. All regressions are clustered at the distributor level since each observation is a movie and various movies are distributed by the same distributor.

All regressions contain 369 observations. Robust standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3. Movie Renegotiation Frequency and the Use of Owned-Theaters by Integrated Distributors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	2SLS
Renegotiation Frequency	0.0818 (0.0289)*		0.0540 (0.0177)*	0.0661 (0.0165)**	0.0665 (0.0154)**	0.0896 (0.0150)***	0.1044 (0.0483)
US Release		-0.0179 (0.0155)	-0.0169 (0.0166)	-0.0153 (0.0158)	-0.0167 (0.0448)	0.0010 (0.0522)	0.0007 (0.0529)
US Box Office		-0.0004 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0003)	-0.0003 (0.0002)
Deviation				0.0028 (0.0008)**	0.0029 (0.0025)	0.0041 (0.0031)	0.0047 (0.0046)
Spanish Movie					-0.0025 (0.0501)	0.0080 (0.0536)	0.0066 (0.0560)
Constant	0.0566 (0.0262)	0.1469 (0.0583)*	0.0975 (0.0542)	0.0864 (0.0505)	0.0875 (0.0614)	0.0541 (0.0624)	0.0277 (0.0300)
Fixed Effect	No	No	No	No	No	Month	Month
R-squared	0.04	0.05	0.07	0.07	0.07	0.15	0.15

The dependent variable in all 7 regressions is a continuous variable that ranges between 0 and 0.5 (see descriptive statistics). This variable represents the percentage of movie openings an integrated distributor does in its own theater branch. The first 6 columns are results from regular OLS regressions whereas the last column (7) presents results from 2SLS regression using the rank of renegotiation frequency as instrument. All regressions are clustered at the distributor level since each observation is a movie and various movies are distributed by the same distributor. All regressions contain 131 observations. Robust standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.