Online Appendix for

"The Welfare Effects of Vertical Integration in China's Movie Industry"

Luming Chen Lisa Xuejie Yi Chuan Yu

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A Robustness Checks

In this section, we discuss a battery of robustness checks to address concerns about our results on endogeneity problems, sample selection, and measurement issues.

Endogeneity Problem A threat to our identification assumption is that vertical integration could be correlated with movie-theater match values, even though we've controlled for theater-movie-type and movie-county fixed effects. In Appendix Table A.5, we repeat our regressions by adding fixed effects step by step. We start with movie(-time) and theater(-time) fixed effects to capture movie popularity and theater attractiveness. In the second column, we interact movie(-time) fixed effects with county dummies to allow for local preference heterogeneity, e.g., audiences in urban markets might be more interested in action movies. In the third column, we interact theater(-time) fixed effects with movie-type dummies to allow for matching values between theaters and certain types of movies, e.g., consumers may find it's preferable to watch 3D movies in more luxury theaters. The last column shows our main specification as in Table 3. We show that the results are not driven by selecting a particular set of controls and are very robust along the steps.

We further mitigate the identification concern in two ways. First, a county might be too large to be a good definition of local markets, and within-county heterogeneity could bias our results. We alternatively define a local market as a town/township/neighborhood (hereinafter town), an administrative level lower than the county. There are a total of over 40,000 towns. We replicate the regressions controlling for town-movie instead of county-movie fixed effects, and the results are robust in Appendix Table A.6. We also replicate the regressions in subsets of smaller or less populous counties, where we expect the audiences

to be less heterogeneous. Last, we partition theaters into clusters based on geographical proximity using k-means clustering and replace county-movie with cluster-movie fixed effects. As shown in Appendix Figure A.12-A.14, all results are highly stable, assuring that within-county heterogeneity is less relevant.

Second, our definition of movie categories could be too broad, so the theater-movie-type fixed effects might fail to capture variation in match values. Therefore, we allow for more granular movie categories and consider the following four sets of categories: (1) foreign vs. domestic, (2) female vs. male lead, (3) above- vs. below-median rating, and (4) above- vs. below-median revenues. For each set of categories, we interact it with the existing six categories, (action, comedy, others) $\times$ (2D, 3D), resulting in a total of 12 categories in each case. The results are reported in Appendix Table A.7 and are qualitatively similar, except that the price effect in the first panel becomes smaller and insignificant.

Sample Selection Another concern is that our data set only includes popular movies. The finding that integrated movies are not being foreclosed to rival theaters may not necessarily generalize to less popular movies. To investigate this possibility, we extend the analysis using a larger sample of the top 20 movies in each month, leading to a total of 1,411 movies and covering over 97% of national revenues. We replicate the regressions in Equations (1) and (2). However, for this sample of movies, we only observe total screenings in each theater at the *monthly* level, but neither revenues nor audiences. Therefore, for Equation 2, we focus on screenings and estimate the regression at the movie-theater level.

Appendix Table A.8 shows the results. Panel A examines all movies in this larger sample. Panel B focuses on less popular movies only in the larger sample but not in our main sample. We find evidence of foreclosure of rival theaters in the first column among less popular movies in Panel B, but the magnitude is economically small. We also find that theaters show their integrated movies longer and allocate them more screenings. The magnitudes are larger among less popular movies.

Measurement Issues In the baseline specification, we only consider the integration between downstream theaters and upstream producers but ignore the role of distributors. Alternatively, we could define the vertical relationship with distributors as well. In Panel A of Appendix Table A.9, the dummy for vertical integration is 1 if the theater shares an owner

with either a movie producer or distributor. All results are qualitatively robust, with smaller coefficients in magnitude. In Panel B, we include two separate dummies, the first for producers and the second for distributors. The signs for the two dummies are the same, but the former has a larger magnitude. This finding is consistent with the fact that producers have stronger financial incentives than distributors.

B Additional Evidence for Foreclosure of Rival Theaters

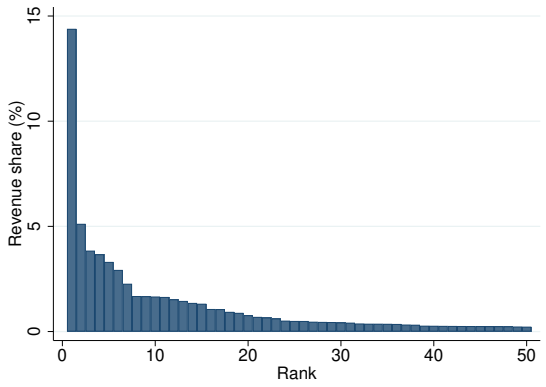
A major concern of policymakers is that vertically integrated producers might exclude competing theaters from sufficient access to their movies. This type of foreclosure is one of the primary forces through which vertical integration could harm consumer welfare. In the first column of Table 3, we find that being vertically integrated with the producer does not change the probability that a theater ever shows the movie, providing null evidence of integrated movies being foreclosed to downstream rivals. In this section, we provide additional test on whether integrated movies are foreclosed to rival theaters in our setting.

In this exercise, we keep all movies integrated with at least one theater. For each integrated movie, we refer to theaters located in the same local markets as the movie's integrated theaters as *competing theaters* and the rest as *non-competing theaters*. We then calculate the fraction of theaters that have exhibited the movie in competing and non-competing theaters separately.

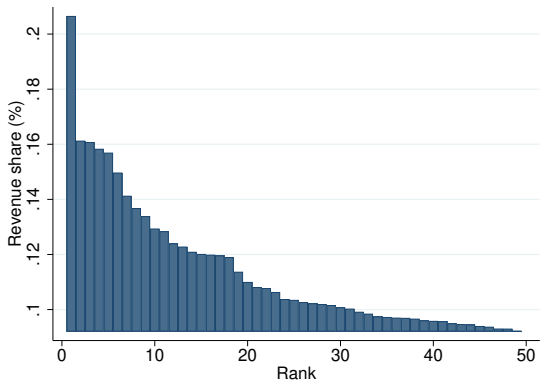
Appendix Figure A.15 presents the pattern with each dot representing one integrated movie. If foreclosing rival theaters is prevalent, upstream movie producers should have larger incentives to exclude theaters that directly compete with their downstream counterparts and only grant access to those non-competing theaters. However, instead of observing dots consistently above the 45-degree line, we find them evenly distributed around it. Therefore, movie producers allow both competing and non-competing theaters to exhibit the movies, and we do not detect evidence of integrated movies being foreclosed to rival theaters in the data.

Figure A.1: Top Theater Investors and Chains

A: Theater Investors

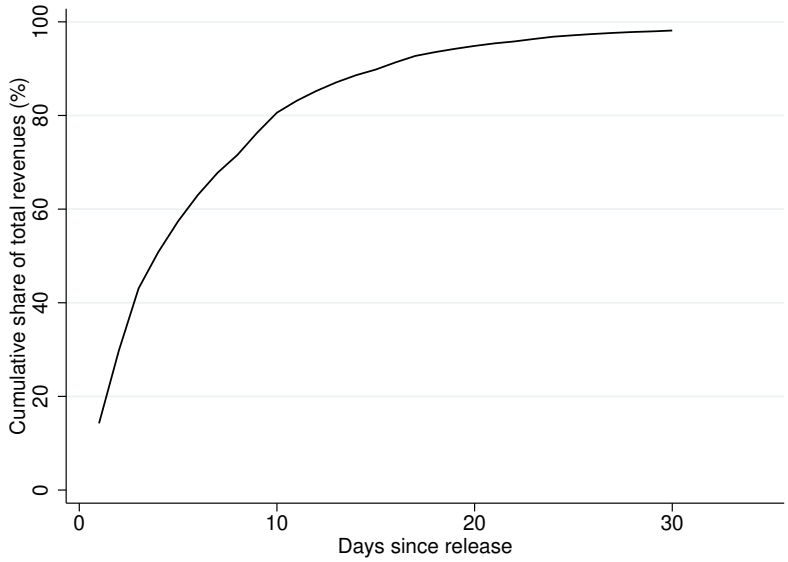


B. Exhibition Chains



Notes: This figure plots the revenue shares for the top 50 theater investors (Panel A) and exhibition chains (Panel B) in China's movie market during 2014-2018. A theater investor is the actual owner of a theater. A theater needs to join an exhibition chain to get access to movies. Large theater investors have their exhibition chains. Small investors and independent theaters collectively form other exhibition chains. There are around 650 theater investors and 50 exhibition chains in total.

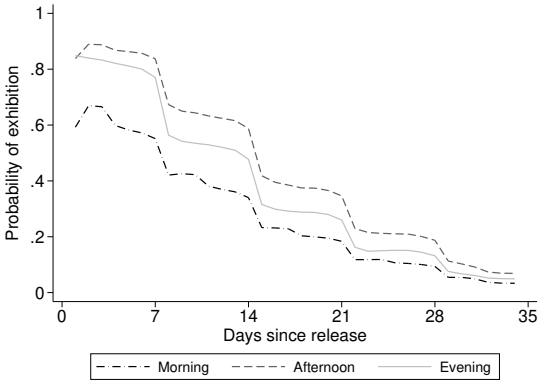
Figure A.2: Cumulative Share of Box Office Revenues after Release



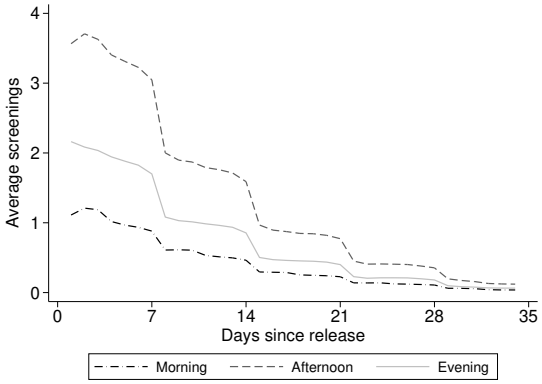
Notes: This figure plots the cumulative box office revenues of a movie for each day after the release of the movie as a fraction of the final total revenues, averaged across movies and weighted by total revenues.

Figure A.3: Time Patterns of Movie Display, Screenings, and Prices

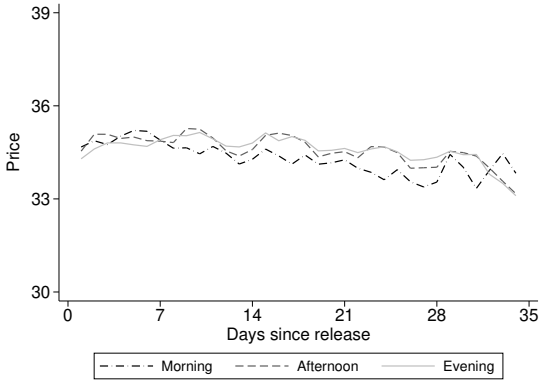
A. Display



B: Screenings

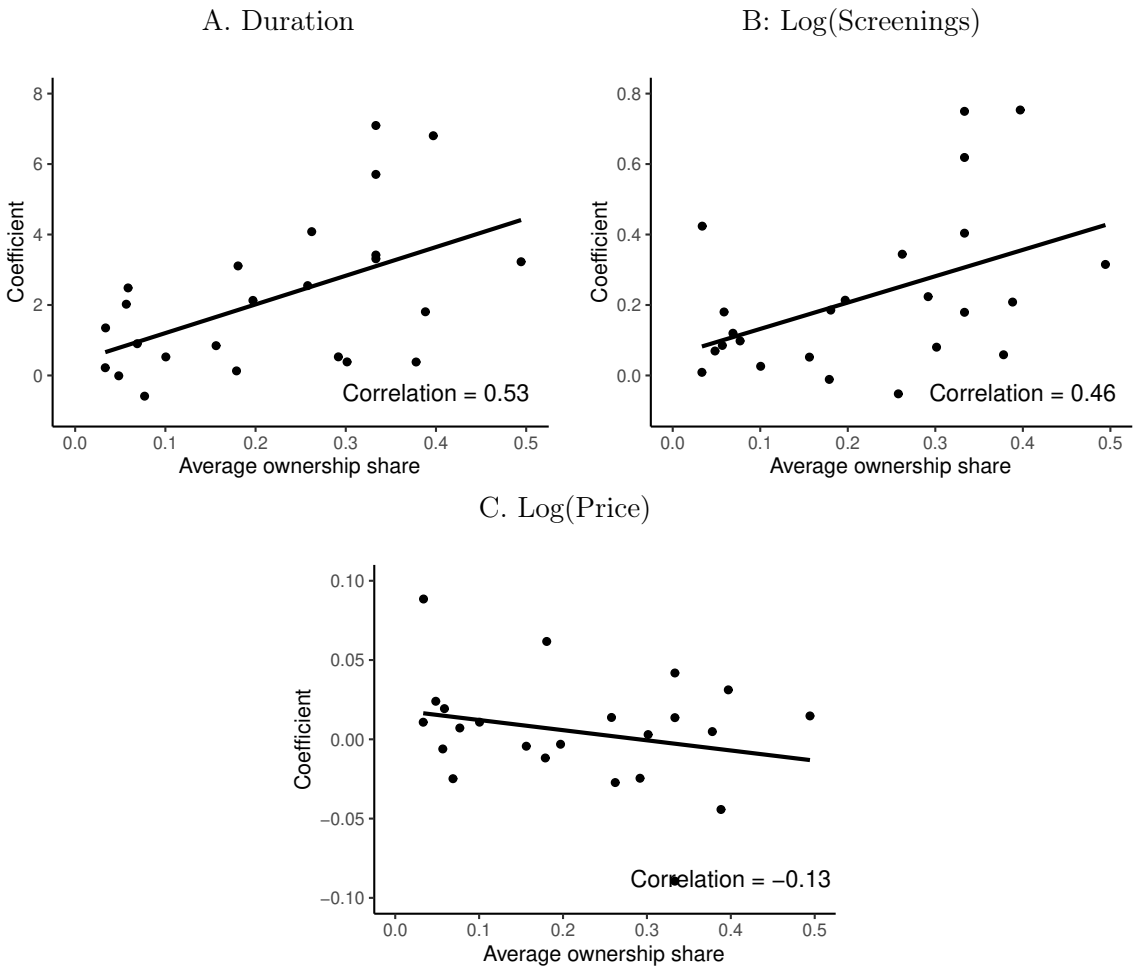


C. Price



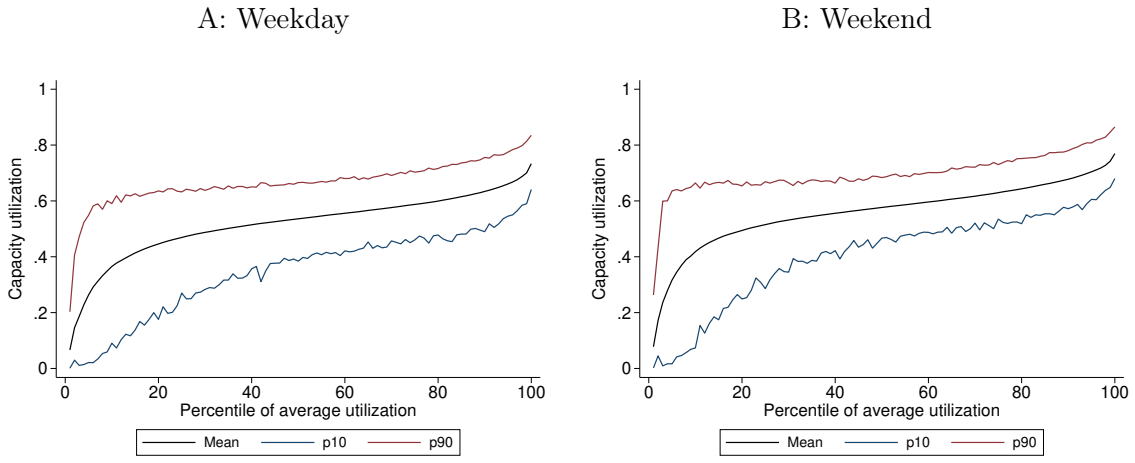
Notes: This figure plots the time patterns of movie display, screenings, and prices from the first day since a movie's release to the 35^{th} day. We break down all screenings into three different time slots: morning, afternoon, and evening.

Figure A.4: The Effect of Vertical Integration by Theater Investor



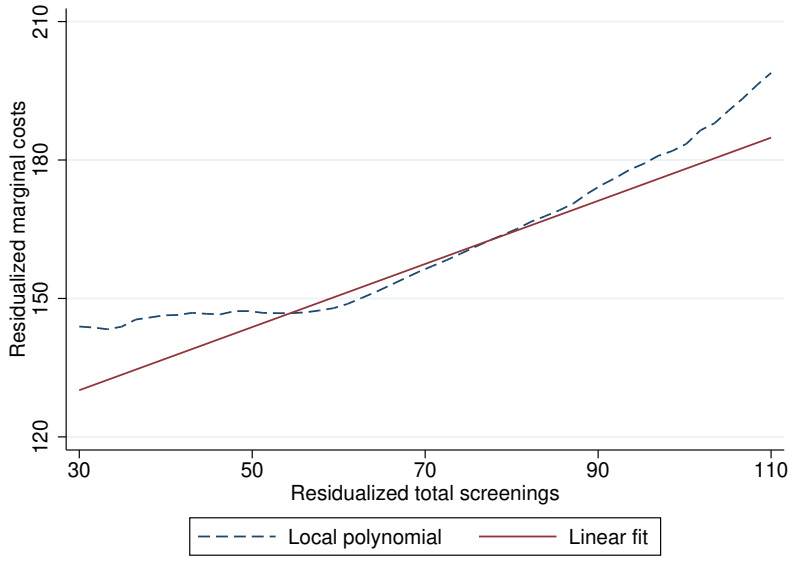
Notes: This figure plots the correlation between the effects of vertical integration by each theater investor and the average ownership share of each theater investor. The effects of vertical integration by theater investors, on the vertical axis, are the estimates from Figure 3. The average ownership shares of theater investors, on the horizontal axis, are the average of the continuous measure of vertical integration across different movies constructed in Section IV.A. We plot the correlation for three different outcome variables: the duration of movie exhibition, log screenings, and log prices, corresponding to the three panels in Figure 3.

Figure A.5: Distributions of Theaters' Daily Capacity Utilization



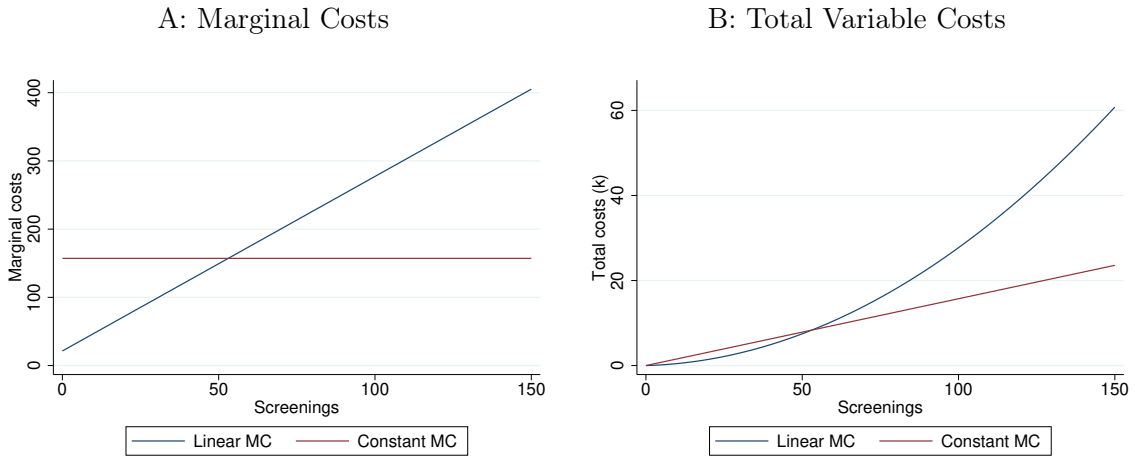
Notes: This figure shows the distribution of theaters' daily capacity utilization. For each theater observed for at least 100 weeks in our sample, we define its maximum capacity as the largest total number of screenings observed in a day over the whole sample period. Capacity utilization is defined as the number of daily screenings divided by its maximum capacity. We calculate each theater's average capacity utilization, as well as the 10th and 90th percentiles. We rank all theaters according to their average capacity utilization and group them into 100 bins. The $x-$axis shows the index of the bin. The $y-$axis plots the mean of the average, the 10th percentile, and the 90th percentile of capacity utilization within each bin of theaters. Panel A shows the distributions of daily utilization rates on weekdays and Panel B shows those on weekends.

Figure A.6: Marginal Costs and Total Screenings



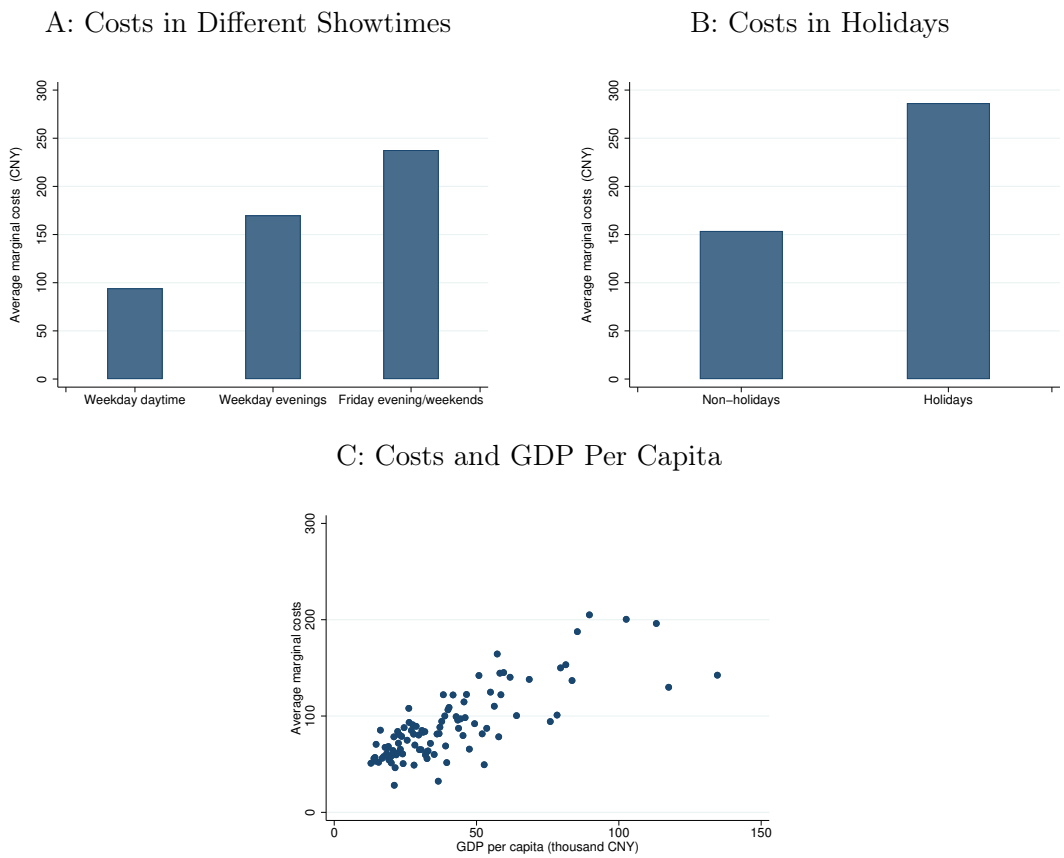
Notes: This figure plots the relationship between marginal costs and total screenings. We average marginal revenues MR_{jmkt} to the theater-week-showtime level as the proxy for marginal costs MC_{jkt} and calculate the total number of screenings N_{jkt} in a theater-week-showtime. We residualize marginal costs and total screenings by theater-showtime fixed effects, county-month-showtime fixed effects, and holiday-showtime fixed effects, and construct a local polynomial fit and a linear fit of the residualized marginal costs on the $y-$axis and residualized total screenings on the $x-$axis.

Figure A.7: Illustration of the Cost Functions



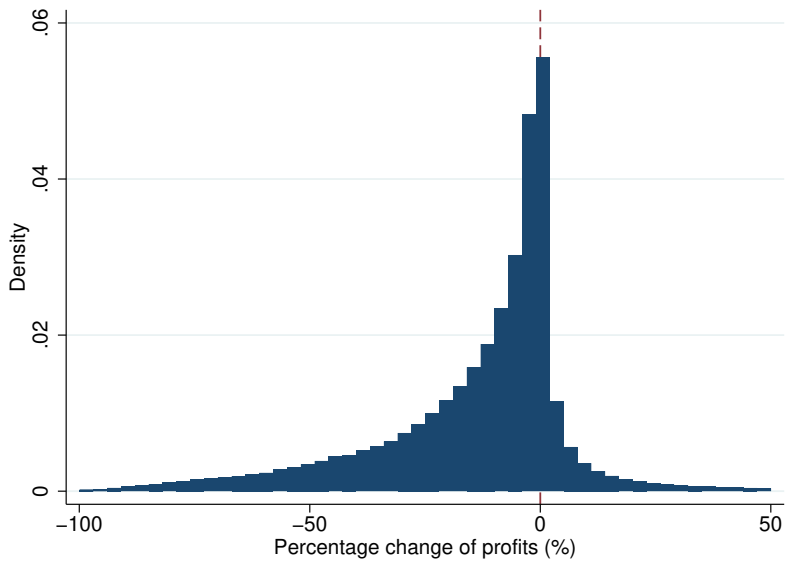
Notes: This figure illustrates the marginal cost function (Panel A) and total variable cost function (Panel B) for an average theater in our sample. We plot our preferred specification of a linear marginal cost function as in Equation (12), as well as an alternative specification of a constant marginal cost function.

Figure A.8: Validation of the Cost Estimates



Notes: This figure provides some validation of the cost estimates. Panel A shows the average marginal costs in different showtimes. Panel B shows the average marginal costs during holidays and non-holidays. Panel C shows a binned scatter plot of the average marginal costs and local GDP per capita at the prefecture level.

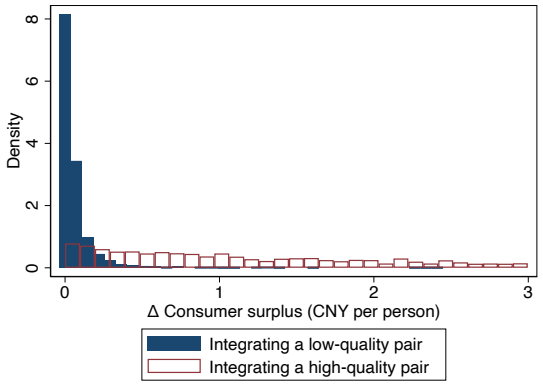
Figure A.9: Model Fit



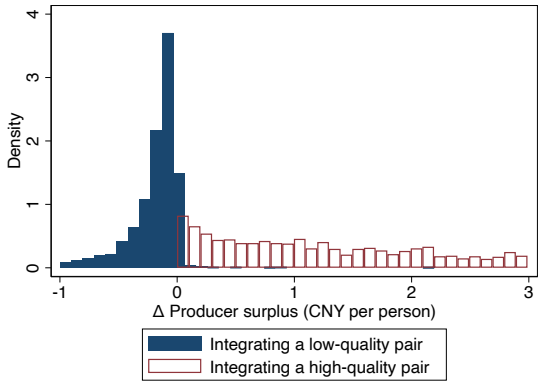
Notes: This figure examines model fit. We randomly select one movie in one theater in each market and replace it with a movie that this theater didn't show but was shown by other theaters in the same market. We then solve the market shares of all the movies and calculate the change in profits for theaters whose sets of movies get replaced. We plot the distribution of the change in profits, and the red dashed line denotes zero.

Figure A.10: The Effects of Integrating a Low-Quality or High-Quality Pair

A. ΔConsumer Surplus

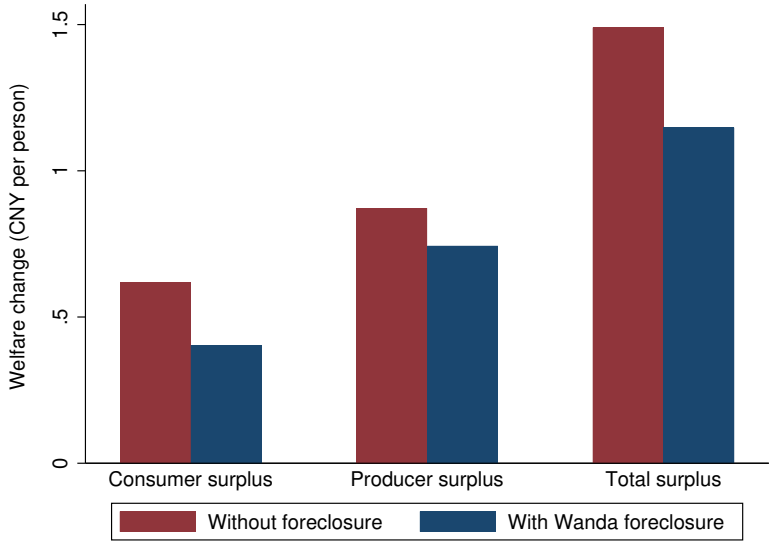


B. ΔProducer Surplus



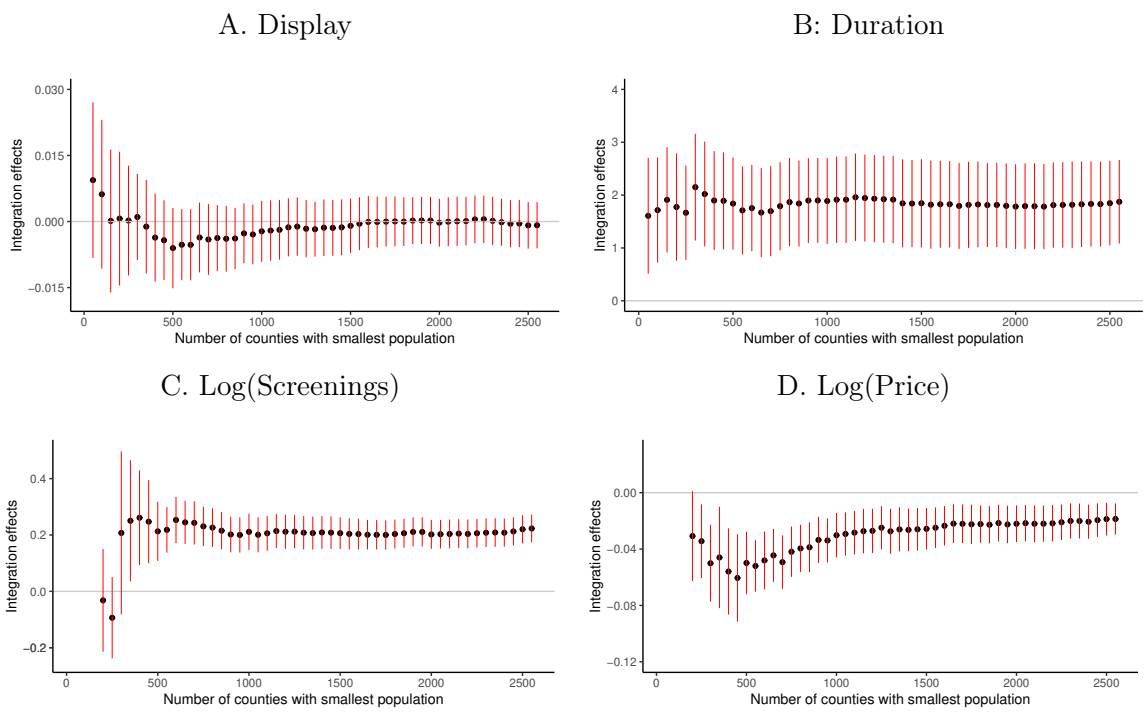
Notes: This figure shows how the quality of integrated pairs affects the welfare effects of vertical integration. We measure the quality of a pair as $\eta_{mt} + \gamma_j + \xi_{jmt}$, defined in Equation (6). For each market, we hypothetically integrate the movie-theater pair with the lowest or the highest quality measure and solve the new equilibria. This figure plots the welfare changes across markets. Panel A shows the changes in consumer surplus. Panel B shows the changes in producer surplus.

Figure A.11: Welfare Effects of Vertical Integration With and Without Foreclosure



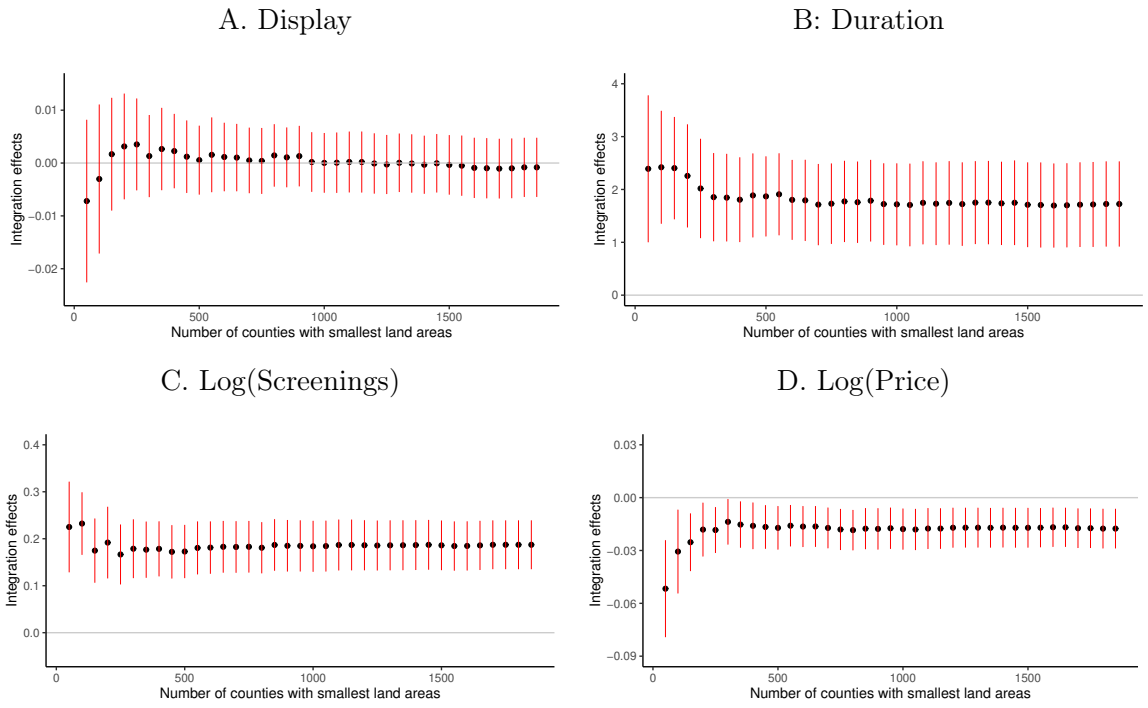
Notes: This figure presents the welfare effects under foreclosure. We assume Wanda can foreclose individual theaters in a market and solve the new equilibrium under its foreclosure. We calculate Wanda's profits with and without its foreclosure in each market and assume Wanda picks the choice that yields higher profits. We show the welfare effects of vertical integration without and with Wanda foreclosure, compared with the scenario with no vertical integration. The left bars in each block replicates the results in Figure 5. The right bars in each block shows the welfare effects when we allow Wanda to foreclose individual theaters. See Section VI.C for more details.

Figure A.12: Vertical Integration and Market Outcomes, Counties with Smallest Populations



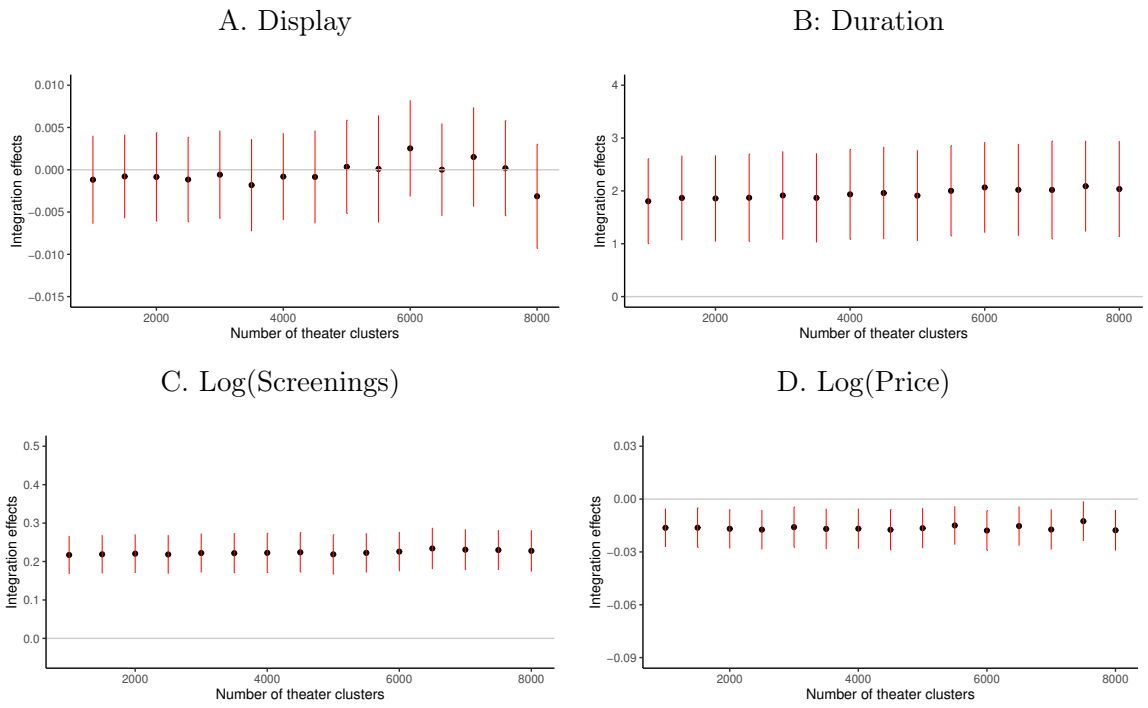
Notes: This figure shows the effect of vertical integration in counties of different population sizes. We rank all counties in terms of their population sizes. We start from a sample of 50 counties with the smallest populations and then gradually include more counties with an incremental of 50 counties each time. In each sub-sample, we estimate regressions similar to those in Table 3 and then plot the coefficients. Standard errors are two-way clustered by movie and by theater. The outcomes in each panel are whether a movie is exhibited in a theater (Panel A), the length that a theater shows a movie (Panel B), the log of total screenings (Panel C), and the log of the average price (Panel D), corresponding to each column in Table 3.

Figure A.13: Vertical Integration and Market Outcomes, Counties with Smallest Land Areas



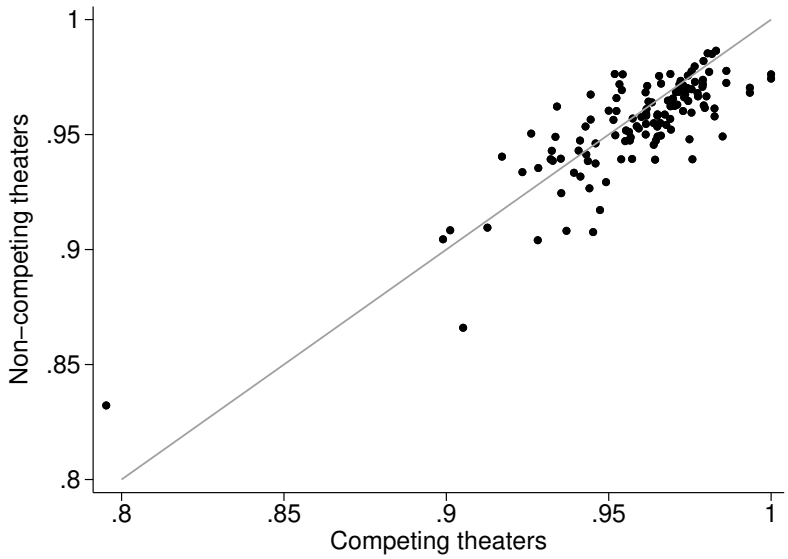
Notes: This figure shows the effect of vertical integration in counties of different land sizes. We rank all counties in terms of their land sizes. We start from a sample of 50 counties with the smallest lands and then gradually include more counties with an incremental of 50 counties each time. In each sub-sample, we estimate regressions similar to those in Table 3 and then plot the coefficients. Standard errors are two-way clustered by movie and by theater. The outcomes in each panel are whether a movie is exhibited in a theater (Panel A), the length that a theater shows a movie (Panel B), the log of total screenings (Panel C), and the log of the average price (Panel D), corresponding to each column in Table 3. Some counties have missing land sizes and are omitted in these regressions.

Figure A.14: Vertical Integration and Market Outcomes, Grouping Counties into Clusters



Notes: This figure shows the effect of vertical integration by different theater clusters. We use k-means clustering to group nearby theaters into clusters based on longitudes and latitudes. This method partitions all theaters into K clusters based on geographical proximity, where each theater belongs to the cluster with the nearest center. We vary the number of clusters K from 1,000 to 8,000 and replace county-movie fixed effects with cluster-movie fixed effects in the regressions. For each number of clusters, we estimate regressions similar to those in Table 3 and then plot the coefficients. Standard errors are two-way clustered by movie and by theater. The outcomes in each panel are whether a movie is exhibited in a theater (Panel A), the length that a theater shows a movie (Panel B), the log of total screenings (Panel C), and the log of the average price (Panel D), corresponding to each column in Table 3.

Figure A.15: Checking the Existence of Foreclosure



Notes: This figure provides descriptive evidence that there is no foreclosure on the market. We keep all integrated movies, defined as those integrated with at least one theater, and each dot represents one integrated movie. For each integrated movie, competing theaters refer to theaters located in the same markets as the movie's integrated theaters and non-competing theaters refer to other theaters. We calculate the fraction of theaters that have exhibited the movie among competing and non-competing theaters separately. A 45-degree line is added to the figure.

Table A.1: Vertical Integration and Supply Decisions, Different Showtimes

	Log(Screenings)	Log(Price)
A: Weekday Daytime		
Integrated with Producer	0.237	-0.016
	(0.026)	(0.006)
Observations	8,065,924	7,283,029
B: Weekday Evenings		
Integrated with Producer	0.197	-0.017
	(0.026)	(0.005)
Observations	7,308,703	6,932,391
C: Friday Evenings and Weekends		
Integrated with Producer	0.233	-0.020
	(0.024)	(0.006)
Observations	7,567,115	7,199,765
Movie-County-Week FE	✓	✓
Theater-MovieType-Week FE	✓	✓

Notes: This table shows how vertical integration affects supply decisions at different showtimes. Each column has the same specification as Columns 3-4 of Table 3. Each panel looks at each of the three showtimes separately: (i) weekday daytime, (ii) weekday evenings, and (iii) Friday evenings and weekends. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.2: Variation in Prices and Screenings

Panel A: Prices

	Dep. Var. = Price (Mean = 31.93)			
	(1)	(2)	(3)	(4)
SD of Residuals	7.38	5.32	4.16	3.89
R^2	0.00	0.48	0.68	0.72
Theater FE		✓		
Theater-Week FE			✓	
Theater-Week-Showtime FE				✓
Number of FEs	0	10,466	1,633,137	4,759,180
Observations	21,635,651			

Panel B: Screenings

	Dep. Var. = Log(Screenings) (Mean = 2.08)			
	(1)	(2)	(3)	(4)
SD of Residuals	0.94	0.85	0.82	0.77
R^2	0.00	0.18	0.25	0.34
Theater FE		✓		
Theater-Week FE			✓	
Theater-Week-Showtime FE				✓
Number of FEs	0	10,466	1,633,137	4,759,180
Observations	21,635,651			

Notes: This table shows the variation in prices and screenings in the data. Each observation is at the movie-theater-showtime-week level. In each column, we regress the average price (Panel A) or log of screenings (Panel B) on different sets of fixed effects and compute the residuals. We report the standard deviations of the residuals and the R^2 from each regression. We also report the mean of the dependent variable and the number of fixed effects included in each regression. Column 1 does not include any fixed effects and measures the raw price variation. Column 2 includes theater fixed effects. Column 3 includes theater-week fixed effects. Column 4 includes theater-week-showtime fixed effects.

Table A.3: First Stage of the Demand Estimation

	Price	Log(Screenings)	Log(Cond. Mkt. Share)
Log(Screens of Other Theaters)	-1.478	0.016	-0.594
	(0.060)	(0.003)	(0.009)
Differentiation IV, Movie Age	0.008	-0.055	-0.046
	(0.005)	(0.003)	(0.003)
Differentiation IV, Rating	-0.004	0.014	0.026
	(0.005)	(0.003)	(0.003)
Differentiation IV, Domestic	-0.012	0.012	0.015
	(0.016)	(0.008)	(0.009)
Integration	-2.458	0.785	0.608
	(1.133)	(0.094)	(0.099)
$F-$statistic	123.29	249.51	1042.82
Observations	21,635,651	21,635,651	21,635,651
Movie-Week FE	✓	✓	✓
Week-Showtime FE	✓	✓	✓
Theater FE	✓	✓	✓

Notes: This table shows the first-stage regressions of the demand estimation using instrumental variables, corresponding to the second column in Table 4. Each column shows an endogenous variable as the dependent variable: the average price, the log of total screenings, and the conditional market share. The instruments are described in Section V.A. The $F-$statistics of the joint tests are reported. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.4: Counterfactual Results with Pricing Responses

	Panel A: Welfare Effects							
	Total Changes (Million)				Changes Per Person			
	Screening	Quality	Steering	Overall	Screening	Quality	Steering	Overall
Consumer Surplus	378.0	158.6	-190.3	346.3	0.6	0.3	-0.3	0.6
Producer Surplus	-72.1	353.1	132.3	413.3	-0.1	0.6	0.2	0.7
Producer Surplus, Upstream	332.3	141.2	-159.7	313.8	0.6	0.2	-0.3	0.5
Producer Surplus, Downstream	-470.9	183.6	324.0	36.7	-0.8	0.3	0.5	0.1
Total Surplus	305.9	511.7	-57.9	759.6	0.5	0.9	-0.1	1.3
	Panel B: Heterogeneity Across Markets (CNY Per Person)							
		p10	p25	p50	p75	p90	N	
Δ Consumer Surplus		0.00	0.01	0.08	0.68	2.15	889	
Δ Producer Surplus		-0.00	0.01	0.09	0.90	3.04	889	
Δ Producer Surplus, Upstream		0.00	0.01	0.07	0.65	1.94	889	
Δ Producer Surplus, Downstream		-0.04	-0.00	0.01	0.16	0.67	889	
Δ Total Surplus		0.00	0.02	0.17	1.69	5.25	889	

Notes: This tables replicates the counterfactual results in Table 6 when we allow for pricing responses. We restrict to markets (county-weeks) with at least one theater integrated with a movie producer or a distributor. We endogenize theaters' pricing decisions with a rich and flexible reduced-form model to allow prices to be adjusted when we change the vertical integration status. See Section VI.A for more details. In Panel A, we report the aggregate changes in total screenings, consumer surplus, producer surplus (total, upstream, downstream), and total surplus from the scenario without vertical integration to the scenario with vertical integration. Columns 1-4 show the changes in levels and Columns 5-8 in changes per person. We decompose the overall effects into three channels: *screening effect*, *quality effect*, and *steering effect*, defined in Section VI.A. In Panel B, we report different percentiles for the overall effects across counties. The last column reports the total number of counties.

Table A.5: Vertical Integration and Supply Decisions, Step-by-Step Regressions

	(1)	(2)	(3)	(4)
A: Movie-Theater				
Display: Integrated	-0.005	-0.001	-0.005	-0.001
	(0.003)	(0.002)	(0.003)	(0.003)
Duration: Integrated	1.558	1.884	1.579	1.888
	(0.395)	(0.377)	(0.421)	(0.408)
Observations	3,062,074	3,062,074	3,062,074	3,062,074
Movie FE	✓		✓	
Theater FE	✓	✓		
Movie-County FE		✓		✓
Theater-MovieType FE			✓	✓
B: Movie-Theater-Week-Showtime				
Log(Screenings): Integrated	0.163	0.191	0.202	0.223
	(0.025)	(0.024)	(0.026)	(0.025)
Log(Price): Integrated	-0.019	-0.028	-0.012	-0.018
	(0.007)	(0.007)	(0.005)	(0.006)
Observations	21,415,185	21,415,185	21,415,185	21,415,185
Movie-Week-Showtime FE	✓		✓	
Theater-Week-Showtime FE	✓	✓		
Movie-County-Week-Showtime FE		✓		✓
Theater-MovieType-Week-Showtime FE			✓	✓

Notes: This table shows how vertical integration affects supply decisions controlling for different sets of fixed effects step by step. Each row has the same specification as Table 3 but includes different sets of fixed effects in each column. The last column replicates the results in Table 3. Each cell presents the estimated coefficient β_1 from one regression, with different outcomes (rows) and different fixed effects (columns). Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.6: Vertical Integration and Supply Decisions, Town Level

	Display	Duration	Log(Screenings)	Log(Price)
Integrated with Producer	0.001	2.070	0.232	-0.017
	(0.003)	(0.424)	(0.026)	(0.006)
Observations	3,062,074	3,062,074	22,941,742	21,415,185
Mean Dep. Var.	0.951	18.392	2.106	3.445
Movie-Town FE	✓	✓		
Theater-MovieType FE	✓	✓		
Movie-Town-Week-Showtime FE			✓	✓
Theater-MovieType-Week-Showtime FE			✓	✓

Notes: This table shows how vertical integration affects supply decisions using a town as the definition of a market. Town is the administrative level lower than county. We assign each theater to the nearest town based on longitudes and latitudes. Each column has the same specification as Table 3 but controls for town-movie fixed effects instead of county-movie fixed effects. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.7: Vertical Integration and Supply Decisions, More Granular Movie Categories

	Display	Duration	Log(Screenings)	Log(Price)
A: Base Categories + Foreign vs. Domestic				
Integrated with Producer	0.001	2.127	0.230	-0.001
	(0.003)	(0.401)	(0.023)	(0.004)
B: Base Categories + Above vs. Below-Median Rating				
Integrated with Producer	-0.000	2.033	0.229	-0.015
	(0.003)	(0.394)	(0.024)	(0.005)
C: Base Categories + Above vs. Below-Median Box Office				
Integrated with Producer	0.000	1.872	0.224	-0.017
	(0.002)	(0.394)	(0.025)	(0.006)
D: Base Categories + Female vs. Male Lead				
Integrated with Producer	-0.001	1.897	0.231	-0.018
	(0.002)	(0.393)	(0.025)	(0.005)
Observations	3,062,074	3,062,074	22,941,742	21,415,185
Movie-County FE	✓	✓		
Theater-MovieType FE	✓	✓		
Movie-County-Week-Showtime FE			✓	✓
Theater-MovieType-Week-Showtime FE			✓	✓

Notes: This table shows how vertical integration affects supply decisions allowing for more granular movie categories. We consider the following four sets of categories: (1) foreign vs. domestic, (2) above-median vs. below-median rating, (3) above-median vs. below-median box office, and (4) female lead vs. male lead. For each set, we interact it with the existing six categories, (action, comedy, others) $\times$ (2D, 3D), resulting in a total of 12 categories in each case reported in Panels A-D, respectively. Each column has the same specification as Table 3. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.8: Vertical Integration and Supply Decisions, Less Popular Movies

	Display	Duration (Months)	Log(Screenings)
A: Full Sample			
Integrated with Producer	0.008	0.023	0.400
	(0.005)	(0.007)	(0.031)
Observations	8,938,284	8,938,284	7,677,346
Mean Dep. Var.	0.859	1.102	3.343
B: Less Popular Movies			
Integrated with Producer	0.029	0.030	0.540
	(0.008)	(0.009)	(0.051)
Observations	5,876,210	5,876,210	4,814,910
Mean Dep. Var.	0.819	0.941	2.871
Movie-County FE	✓	✓	✓
Theater-MovieType FE	✓	✓	✓

Notes: This table shows how vertical integration affects supply decisions using a larger set of movies. In Panel A, we supplement the 423 most popular movies with less popular movies, which leads to a larger sample that covers the top 20 movies for each month and includes 1,411 movies in total. In Panel B, we exclude the 423 popular movies. Each column has the same specification as Columns 1-3 of Table 3. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.

Table A.9: Vertical Integration and Supply Decisions, Alternative Definitions

	Display	Duration	Log(Screenings)	Log(Price)
A: Either Producer or Distributor				
Integrated	0.001	0.953	0.074	-0.005
	(0.002)	(0.224)	(0.013)	(0.003)
B: Two Indicators				
Integrated with Producer	-0.001	1.620	0.210	-0.017
	(0.002)	(0.376)	(0.024)	(0.005)
Integrated with Distributor	0.002	0.753	0.036	-0.002
	(0.002)	(0.213)	(0.013)	(0.002)
Observations	3,062,074	3,062,074	22,941,742	21,415,185
Movie-County FE	✓	✓		
Theater-MovieType FE	✓	✓		
Movie-County-Week-Showtime FE			✓	✓
Theater-MovieType-Week-Showtime FE			✓	✓

Notes: This table shows how vertical integration affects supply decisions using alternative definitions of vertical integration. Each column has the same specification as Table 3. In Panel A, a movie and a theater are defined as being vertically integrated if the theater investor has a common shareholder with either the movie producer or distributor. In Panel B, we include two separate dummies indicating whether the theater investor has a common shareholder with the movie producer and whether it has a common shareholder with the movie distributor. Standard errors are two-way clustered by theater and by movie and are reported in parentheses.