

ONLINE APPENDIX

The Effects of Antitrust Laws on Horizontal Mergers:
International Evidence

I. Timing of the Treatment Effect

In Table OA1, we turn to a multivariate setting to examine how the deterrent effect of antitrust regulation on horizontal M&A outcomes changes over time. We obtain data on M&As from the Securities Data Company (SDC). We replace *AFTER* with the indicator variables corresponding to each year surrounding the law adoption. $AFTER_{t=3}$, $AFTER_{t=2}$, and $AFTER_{t=1}$ are the dummies equal to one if a deal occurs three years, two years, and one year before the beginning of the post-treatment period for each treated country, respectively, and zero otherwise. $AFTER_{t=1}$, $AFTER_{t=2}$, and $AFTER_{t=3}$ are the indicator variables equal to one if a deal takes place in the first, the second, and the third year of the post-treatment period for each country, respectively, and zero otherwise. $AFTER_{t \geq 4}$ takes a value of one if the post-treatment period for a treated country started three or more years ago, and zero otherwise. We interact each timing indicator with *TREAT* x *HORIZONTAL* and *TREAT*, respectively. Regardless of whether we include the controls or not, Table OA1 shows that the subdued gain for an acquirer from a horizontal deal occurs only in the post-treatment period. The coefficient of *AFTER* x *TREAT* x *HORIZONTAL* is negative and significant only after the law adoption. The results do not imply that the horizontal merger outcomes reflect a decreasing trend started before the adoption of antitrust laws. Thus, a pre-treatment trend does not seem to drive our results.

[Insert Table OA1 here.]

II. Propensity Score Matching

In Table OA2, we mitigate the concern that our results may be driven by the difference in firm- or deal-level characteristics between the treated and the control group. We create a sample by matching the treated observations with those in the control group using the propensity score

methodology. Specifically, we first estimate a logit model using the M&A deal observations and the firm- and the deal-level characteristics to predict the likelihood that an observation is ‘treated’ and obtain the predicted propensity score for each observation. Then, we match each treated observation to those in the control group (with replacement) based on year and the closest propensity score (with a maximum difference in propensity scores of 0.005 between the two groups)¹. When a treated observation is matched to multiple observations, we retain the one with the closest propensity score. The matched sample covers the five years ($t = -2, -1, 0, 1, \text{ and } 2$) surrounding an antitrust law adoption with year 0 corresponding to the first year in the post-treatment period. This process generates 488 matched pairs of acquisitions (a total of 976 observations) between the treated and the control group.

Panel A, Table OA2 documents that none of the firm- and the deal-level characteristics show significant difference between the treated and the control group in the matched sample. Thus, a statistical inference based on our matched sample is free from concerns related to the difference in fundamentals between the two groups. Panel B, Table OA2 shows the results based on propensity score matching². $\text{AFTER} \times \text{TREAT} \times \text{HORIZONTAL}$ shows the negative coefficient, significant at the 1% level in all specifications. Thus, Table OA2 alleviates the concern that the subdued gain for an acquirer from a horizontal merger after the antitrust law adoption may be driven by the difference in fundamentals between the treated and the control group.

[Insert Table OA2 here.]

¹ Including industry fixed effects in the regression mitigates the concern related to not matching on industry.

² The value of AFTER shows variation for the control group in the matched sample because we match on year as well. If a control group observation is matched to the post-treatment (pre-treatment) period, then AFTER is equal to one (zero). Thus, we include AFTER and $\text{AFTER} \times \text{HORIZONTAL}$ in the regression for Table OA2. TREAT is still subsumed by country fixed effects.

III. 'Four-Legal Framework'

The term 'four-legal framework' here refers to the one proposed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998): English-origin, French-origin, German-origin, and Scandinavian-origin. We follow Table 2 of La Porta et al. (1998) to assign a sample country into each group of the four legal frameworks³. We also create an indicator corresponding to each legal framework (English Origin, French Origin, and German Origin) and conduct subsample analyses⁴. In Table OA3, column 1 and 2 correspond to the subsample analysis based on English legal origin. Column 3 and 4 pertain to the subsample tests based on French and German legal origin, respectively.

Table OA3 show that our result is concentrated in the non-English legal origin and the German legal origin subsamples. We do not find a significant coefficient for AFTER x TREAT x HORIZONTAL in the English legal origin and the French legal origin subsamples. La Porta et al. (1998) state, 'common-law countries generally have the strongest, and French-civil-law countries the weakest, legal protection of investors, with German- and Scandinavian-civil-law countries located in the middle.' Then, the result in Table OA3 is not clearly understood through the lens of the four-legal framework. We do not see the significant reduction in an acquirer's gain from a horizontal deal after the law adoptions in French legal origin countries where investor protection should be the weakest. Thus, we conclude that agency problems do not seem to drive our results, based on the four-legal framework.

[Insert Table OA3 here.]

³ La Porta et al. (1998) note, "Taiwan's laws came from China, which borrowed heavily from the German code during its modernization." Thus, we assign China to the German-origin group.

⁴ In Table OA3, we do not include the results for Scandinavian-Origin countries because of limited sample size. We are not able to cluster standard errors at the country level since Norway is the only Scandinavian-Origin country in our sample with 132 observations.

IV. Minimum Deal Value and Other Sample Filters

Table OA4-OA7 address the concern that the sample filters may tilt the full sample towards developed countries. For instance, the minimum deal value threshold of \$1 million may disproportionately omit merger deals in developing countries because their economy is smaller than that of developed countries. Thus, merger deals in developing countries are likely to be smaller than the deals in developed countries and the minimum threshold of \$1 million in deal value may be more binding for developing countries.

To address this issue, we relax the minimum threshold of \$1 million in deal value for merger deals in non-U.S. countries to reconstruct our full sample, because the U.S. is arguably the most developed country in the world. In Table OA4, including non-U.S. mergers that are smaller than \$1 million in deal value increases the number of observations from 27,113 (N in the original manuscript) to 28,708. We believe this relatively modest change in N is attributable to the requirement that an acquirer owns less than 50% of a target's shares before a merger announcement and that an acquirer should buy more than or equal to 50% of a target's shares through a deal. In other words, a deal should be 'large enough' for an acquirer to buy at least 50% of a target's shares, which makes it likely for a deal to exceed \$1 million in deal value even in developing countries.

[Insert Table OA4 here.]

With the mergers smaller than \$1 million in deal value in non-U.S. countries included in our sample, we re-run our difference-in-differences-in-differences (DDD) model with an acquirer's five-day cumulative abnormal returns (CARs) as a dependent variable. In Table OA5, we show that the subdued acquirer market reactions to a horizontal deal after the antitrust law adoption is robust to including non-U.S. mergers that are smaller than \$1 million in deal value.

[Insert Table OA5 here.]

Other than the deal value filter, we also remove other merger filters: focusing on completed deals, requiring an acquirer to own or acquire at least 50% of a target's shares through a deal, and excluding an acquirer associated with either limited partnership, special purpose vehicle, recapitalization, or restructuring. Removing the aforementioned filters increases the number of observations in our sample from 27,113 to 34,178. Table OA6 shows the sample distribution by country. The four developed countries (Australia, Japan, United Kingdom, and United States) account for 58.26% ($=4,116 / 7,065$) of the increase in N after removing the sample filters. Thus, the sample filters do not seem to disproportionately affect developing countries. Using the reconstructed sample, we show that our baseline result is robust to removing the sample filters other than the minimum threshold for deal value in Table OA7.

[Insert Table OA6 here.]

[Insert Table OA7 here.]

V. Post-Merger Change in Profitability for Horizontal M&As

Here, we examine how the post-merger change in an acquirer's profitability from a horizontal merger differs due to the antitrust law adoptions. The lower CARs surrounding a horizontal merger announcement under merger control implies that the post-merger gain in profitability also decreases after the law adoption. Because merger control prevents a large merger to avoid industry concentration, a smaller horizontal M&A after the law adoption signals a lower monopolistic gain from an acquirer's standpoint (e.g., lower scope of predatory pricing, collusion). Thus, the post-merger profitability for a horizontal deal is likely to diminish with competition laws.

To test our claim, we use the change in the industry-median-adjusted operating income before depreciation and amortization scaled by book assets from year $t+1$ to $t+2$ (or $t+3$), with t corresponding to the year of a merger announcement, as a dependent variable. The post-merger

change in profitability should show how much a newly combined firm can improve its profitability after a merger. In column 1 and 3 of Table OA8, we find the coefficient of AFTER x TREAT x HORIZONTAL is negative but statistically insignificant.

Even after controlling for the time-invariant industry-level characteristics, it is possible that horizontal M&A outcomes may depend on the unobserved firm-level properties. For instance, the post-merger profitability of an industry-leader is likely to be different from that of a relatively marginal competitor. Or, a certain acquirer may be more prone to managerial entrenchment than its industry-peers, which is not readily observed from an outsider's standpoint. If a time-invariant acquirer-level characteristic is correlated with the post-merger profitability, then it may bias the results. To address such concern, we include acquirer fixed effects in column 2 and 4. We find the coefficient of AFTER x TREAT x HORIZONTAL is negative and statistically significant. Column 2 and 4 imply that the subdued gain from a horizontal merger under merger control stems from the decrease in the post-merger monopolistic gain. In sum, Table OA8 presents partial evidence that the decrease in CARs for a horizontal merger is driven by the reduced potential to improve post-merger profitability after the antitrust law adoptions.

[Insert Table OA8 here.]

VI. Post-Merger Research and Development Activity

So far, we find that antitrust laws yield small gains to acquirers from horizontal acquisitions. Then, the reduced gains from outward expansion may induce an acquirer to increase internal investment in research and development (R&D) to boost its competitive edge. However, the extant literature (e.g., Aghion, Bloom, Blundell, Griffith, and Howitt (2005), Hashmi (2013), Levine, Lin, Wei, and Xie (2020)) presents mixed evidence on the relation between competition and innovation. Therefore, we examine an acquirer's post-merger innovation incentives by investigating the

acquirer's post-merger R&D investment expense. For the dependent variables, we use an acquirer's R&D expenses scaled by total assets for years $t+1$, $t+2$, and $t+3$, where year t is the merger announcement year.

Table OA9 shows an acquirer's post-merger R&D investment levels one, two, and three years after a horizontal merger announcement. The results indicate that acquirers in horizontal M&As maintain higher post-merger R&D investments after antitrust laws are adopted⁵. This result implies that acquirers in horizontal M&As increase their internal R&D investments after the adoption of these laws to compensate for the reduced gains from such M&As. Our finding is consistent with Levine et al. (2020) showing that the laws designed to prevent industry concentration promotes firm-level innovation.

[Insert Table OA9 here.]

⁵ In untabulated result, we find the relation between $R\&D_{t+3}$ and $AFTER \times TREAT \times HORIZONTAL$ is positive and statistically significant after using firm fixed effects, instead of industry fixed effects. $R\&D_{t+1}$ and $R\&D_{t+2}$ yield positive but statistically insignificant relation in an analogous setting.

References

Aghion, P., Bloom, N., Blundell, R., Griffith, R., & Howitt, P. (2005). Competition and innovation: An inverted-U relationship. *Quarterly Journal of Economics*, 120(2), 701-728.

Alfaro, L., & Charlton, A. (2009). Intra-industry foreign direct investment. *American Economic Review*, 99(5), 2096-2119.

Hashmi, A. R. (2013). Competition and innovation: The inverted-U relationship revisited. *Review of Economics and Statistics*, 95(5), 1653-1668.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106(6), 1113-1155.

Levine, R., Lin, C., Wei, L., & Xie, W. (2020). Competition laws and corporate innovation. Working Paper.

Table OA1

Dynamic Effects of Antitrust Law Enactment on Announcement Returns for Horizontal Mergers

This table reports how the effect of antitrust law enactment on an acquirer's announcement returns for horizontal mergers changes over time, surrounding the law adoption. $AFTER_{t=N}$ is an indicator variable equal to one for each year surrounding the antitrust law enactment for each country, and zero otherwise, with N equal to -3, -2, -1, 1, 2, or 3. For instance, $AFTER_{t=-1}$ is a dummy equal to one for the last year in the pre-treatment period for each treated country, and zero otherwise, and $AFTER_{t=1}$ is an indicator equal to one for the first year in the post-treatment period for each treated country, and zero otherwise. $AFTER_{t \geq 4}$ is an indicator variable equal to one if the post-treatment period for a treated country started three or more years ago, and zero otherwise. We include two-digit standard industrial classification (SIC) industry, year, and country fixed effects. We compute t -statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. We use the controls in Table 4. The constant is omitted for brevity. Appendix A presents variable definitions.

	1	2
	CAR_5DAY	CAR_5DAY
$AFTER_{t=-3} \times TREAT \times HORIZONTAL$	-0.010 (-0.39)	-0.002 (-0.08)
$AFTER_{t=-2} \times TREAT \times HORIZONTAL$	-0.003 (-0.14)	0.017 (0.92)
$AFTER_{t=-1} \times TREAT \times HORIZONTAL$	0.046*** (6.62)	0.039** (2.94)
$AFTER_{t=1} \times TREAT \times HORIZONTAL$	0.032 (1.72)	0.044 (1.61)
$AFTER_{t=2} \times TREAT \times HORIZONTAL$	-0.029*** (-3.67)	-0.022* (-1.84)
$AFTER_{t=3} \times TREAT \times HORIZONTAL$	-0.035** (-2.12)	-0.026 (-1.54)
$AFTER_{t \geq 4} \times TREAT \times HORIZONTAL$	-0.030*** (-3.47)	-0.025** (-2.27)
$AFTER_{t=-3} \times TREAT$	-0.019 (-1.73)	-0.002 (-0.30)
$AFTER_{t=-2} \times TREAT$	-0.011 (-0.74)	0.010 (0.71)
$AFTER_{t=-1} \times TREAT$	-0.007 (-0.37)	0.024 (1.16)
$AFTER_{t=1} \times TREAT$	0.007 (0.79)	0.023* (1.79)
$AFTER_{t=2} \times TREAT$	0.035** (2.12)	0.046** (2.38)
$AFTER_{t=3} \times TREAT$	-0.002 (-0.24)	0.006 (0.52)
$AFTER_{t \geq 4} \times TREAT$	0.030 (1.64)	0.038* (2.01)
$TREAT \times HORIZONTAL$	0.007 (0.99)	0.005 (0.40)
$HORIZONTAL$	-0.001 (-0.86)	0.001 (1.53)
Controls	No	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Country FE	Yes	Yes
Observations	27,113	26,472
Adjusted R ²	0.0249	0.0499

Table OA2
Matched Samples

This table reports how antitrust law enactment affects an acquirer's announcement returns for horizontal mergers in a matched sample. We use the propensity score matching over the five years surrounding the adoption of a law. The treatment and control groups consist of deals in which the acquirers are headquartered in countries that adopt and do not adopt antitrust laws, respectively. For the matching, we estimate propensity scores using firm- and deal-level characteristics. We match each treatment observation to an observation in the control group (with replacement) on the year and the closest propensity score (with a maximum difference between propensity scores of 0.005). When treatment observations have multiple control observation matches, we retain the match with the closest propensity score. Panel A shows the means of the matched variables and propensity scores for the treatment and control groups. Panel B presents the results based on the matched sample. We include two-digit SIC industry, year, and country fixed effects. We compute *t*-statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constant is omitted for brevity. Appendix A presents variable definitions.

Panel A: Comparison of Means across Two Groups			
	1	2	3
	Treatment Group (Obs. = 488)	Control Group (Obs. = 488)	Difference in Means (<i>t-stat</i>)
PROPNESITY_SCORE	0.155	0.155	0.000 (0.00)
LOG_ASSET	5.833	6.025	0.193 (1.63)
RELATIVE_SIZE	0.165	0.172	0.007 (0.29)
ROA	0.038	0.037	-0.001 (-0.17)
TOTAL_LEVERAGE	0.199	0.206	0.007 (0.67)
CASH	0.177	0.168	-0.009 (-0.89)
TANGIBILITY	0.314	0.334	0.021 (1.38)
TOBIN_Q	2.055	1.921	-0.134 (-1.56)
PURE_CASH	0.289	0.316	0.027 (0.91)
PURE_STOCK	0.131	0.119	-0.012 (-0.58)
TENDER	0.008	0.012	0.004 (0.64)
PUBLIC_TARGET	0.037	0.035	-0.002 (-0.17)

Panel B: Acquirer's Gain from a Horizontal Deal			
	1	2	3
	CAR_5DAY	CAR_5DAY	CAR_5DAY
AFTER x TREAT x HORIZONTAL	-0.079*** (-5.21)	-0.077*** (-4.67)	-0.077*** (-4.37)
AFTER x TREAT	0.021* (1.81)	0.013 (1.10)	0.010 (0.68)
AFTER x HORIZONTAL	0.031* (2.02)	0.029* (2.11)	0.027* (2.05)
TREAT x HORIZONTAL	0.057* (2.13)	0.053** (2.31)	0.059** (2.66)
AFTER	0.005 (0.28)	0.000 (0.03)	-0.008 (-0.44)
HORIZONTAL	-0.026 (-1.03)	-0.019 (-1.04)	-0.022 (-1.18)
LOG_ASSET		-0.008*** (-5.47)	-0.009*** (-4.79)
ROA		0.086*** (3.10)	0.100*** (4.59)
TOTAL_LEVERAGE		-0.013 (-0.48)	-0.023 (-0.70)
CASH		-0.019 (-0.89)	-0.035* (-1.84)
TANGIBILITY		-0.016 (-1.41)	-0.011 (-0.85)
TOBIN_Q		-0.002 (-1.25)	-0.002 (-1.33)
PURE_CASH		-0.010 (-1.30)	-0.008 (-0.86)
PURE_STOCK		0.051* (2.13)	0.056* (2.14)
TENDER		0.002 (0.07)	-0.029 (-0.66)
PUBLIC_TARGET		0.010 (0.30)	-0.011 (-0.35)
GDP_GROWTH			-0.612 (-1.55)
FDI_INFLOW			0.075 (0.29)
ICRG_QOG			0.250 (0.90)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	976	976	886
Adjusted R ²	0.021	0.069	0.077

Table OA3
Four Legal Frameworks

This table examines whether the four legal frameworks in La Porta et al. (1998) affect the relation between antitrust law adoptions and acquirer market reactions to a horizontal merger. We use an acquirer's five-day cumulative abnormal returns (CAR) surrounding a merger announcement as a dependent variable. We include two-digit SIC industry, year, and country fixed effects. We compute *t*-statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constant is omitted for brevity. Appendix A in the main manuscript presents variable definitions.

Dependent Variable:	1	2	3	4
	<u>English Origin = 1</u> CAR_5DAY	<u>English Origin = 0</u> CAR_5DAY	<u>French Origin=1</u> CAR_5DAY	<u>German Origin=1</u> CAR_5DAY
AFTER x TREAT x HORIZONTAL	0.001 (0.03)	-0.050*** (-13.65)	0.023 (1.75)	-0.051*** (-16.16)
AFTER x TREAT	-0.017 (-0.97)	0.032*** (3.57)	-0.214* (-2.45)	0.044** (5.82)
TREAT x HORIZONTAL	-0.001 (-0.06)	0.021** (3.06)	-- --	0.019 (2.26)
HORIZONTAL	0.000 (1.64)	0.008** (2.45)	-0.022** (-3.03)	0.010** (3.88)
LOG_ASSET	-0.007*** (-12.44)	-0.006*** (-7.39)	-0.005 (-0.63)	-0.005*** (-8.05)
ROA	0.009 (1.30)	0.030* (1.96)	0.035 (0.33)	0.028 (1.57)
TOTAL_LEVERAGE	0.031*** (6.89)	0.027* (2.17)	0.017 (0.65)	0.026 (2.00)
CASH	-0.005 (-0.94)	-0.032** (-2.57)	-0.092* (-2.76)	-0.032* (-2.80)
TANGIBILITY	-0.009** (-2.60)	-0.026 (-1.73)	-0.023 (-0.84)	-0.034 (-1.76)
TOBIN_Q	0.002*** (6.07)	0.002 (1.51)	-0.008* (-2.26)	0.002 (1.59)
PURE_CASH	0.003*** (5.39)	-0.009 (-1.65)	-0.009 (-1.79)	-0.010 (-1.57)
PURE_STOCK	0.005*** (6.75)	0.016 (1.06)	0.069 (1.20)	0.014 (0.79)
TENDER	0.021** (2.69)	0.002 (0.23)	-0.047 (-0.89)	0.005 (0.45)
PUBLIC_TARGET	-0.028*** (-45.70)	-0.000 (-0.00)	0.039 (1.32)	-0.002 (-0.33)
GDP_GROWTH	-0.096 (-1.27)	-0.438** (-2.57)	-0.562 (-0.75)	-0.774*** (-6.39)
FDI_INFLOW	0.124** (2.78)	-0.453 (-1.32)	-1.740** (-2.82)	-0.276 (-0.80)
ICRG_QOG	0.020 (0.65)	0.001 (0.00)	-0.360 (-1.05)	0.220** (3.30)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Observations	22,471	4,001	307	3,562
Adjusted R ²	0.042	0.093	0.198	0.100

Table OA4
Sample Distribution by Country after Including Small Non-U.S. Mergers

This table presents the distribution of countries in the sample. We provide the year of antitrust law enactment for each country, the number of unique acquirers, the number of domestic M&A observations, and the proportion of horizontal M&As for each country in the full sample. We include only completed mergers in our sample. The sample period ranges from 1989 to 2015. ‘Small Deals’ in this table are mergers with less than \$1 million in deal value. Column 1, 2, and 3 are based on the sample that does not include small deals, and column 4, 5, and 6 are based on the sample that includes small deals in non-U.S. countries.

Country (SDC Acquirer Nation Code)	Before Including Small Deals			After Including Small Deals		
	1 Number of Unique Acquirers	2 Number of Observations	3 % of Horizontal M&As	4 Number of Unique Acquirers	5 Number of Observations	6 % of Horizontal M&As
Australia (AU)	617	1,261	11.90%	745	1,560	11.67%
Brazil (BR)	57	158	22.78%	59	160	23.13%
Chile (CE)	18	25	12.00%	18	25	12.00%
China (CH)	925	1,532	10.31%	960	1,613	10.23%
France (FR)	117	180	15.00%	123	190	14.21%
Germany (WG)	82	108	13.89%	85	112	14.29%
Hong Kong (HK)	17	20	5.00%	17	20	5.00%
India (IN)	134	167	16.77%	148	189	16.40%
Indonesia (ID)	36	55	9.09%	41	63	9.52%
Japan (JP)	1,066	1,883	14.55%	1,236	2,420	13.64%
Malaysia (MA)	230	333	5.71%	314	489	5.32%
Mexico (MX)	16	26	34.62%	16	27	33.33%
Norway (NO)	71	132	10.61%	76	147	10.88%
Singapore (SG)	129	192	6.25%	157	250	8.00%
Switzerland (SZ)	25	35	14.29%	28	39	15.38%
Thailand (TH)	46	60	8.33%	59	85	5.88%
Türkiye (TK)	36	43	9.30%	44	62	9.68%
Taiwan (TW)	88	112	23.21%	97	121	21.49%
United Kingdom (UK)	966	3,256	12.41%	1,031	3,601	12.22%
United States (US)	5,255	17,535	27.43%	5,255	17,535	27.43%
Total	9,931	27,113		10,509	28,708	

Table OA5

Antitrust Law and Acquirer Reactions to Horizontal Merger Announcements: With Small Deals

This table reports how antitrust law enactment affects an acquirer's announcement returns for horizontal acquisitions. A horizontal merger is the case in which an acquirer and a target share the same four-digit SIC code (Alfaro and Charlton (2009)). We use an acquiring firm's five-day cumulative abnormal returns (CAR) surrounding a merger announcement as a dependent variable. For this table, we include non-U.S. mergers that are smaller than \$1 million in deal value. We include two-digit SIC industry, year, and country fixed effects. We compute t -statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constant is omitted for brevity. Appendix A in the main manuscript presents variable definitions.

	1 CAR_5DAY	2 CAR_5DAY	3 CAR_5DAY
AFTER x TREAT x HORIZONTAL	-0.039*** (-4.70)	-0.037*** (-3.88)	-0.038*** (-3.64)
AFTER x TREAT	0.027** (2.23)	0.024* (1.91)	0.027*** (3.78)
TREAT x HORIZONTAL	0.020*** (6.63)	0.020*** (5.88)	0.021*** (4.39)
HORIZONTAL	-0.001 (-0.67)	0.001 (1.43)	0.001 (1.58)
LOG_ASSET		-0.006*** (-11.07)	-0.006*** (-12.12)
ROA		0.007 (1.11)	0.007 (0.98)
TOTAL_LEVERAGE		0.027*** (4.47)	0.028*** (5.59)
CASH		-0.010* (-1.79)	-0.009 (-1.73)
TANGIBILITY		-0.011** (-2.82)	-0.010** (-2.74)
TOBIN_Q		0.002*** (4.76)	0.002*** (4.23)
PURE_CASH		-0.000 (-0.05)	0.000 (0.14)
PURE_STOCK		0.008** (2.48)	0.009** (2.40)
TENDER		0.020** (2.20)	0.020** (2.17)
PUBLIC_TARGET		-0.025*** (-6.49)	-0.025*** (-6.87)
GDP_GROWTH			-0.204* (-1.92)
FDI_INFLOW			-0.010 (-0.15)
ICRG_QOG			-0.055 (-0.94)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	28,708	28,708	27,897
Adjusted R ²	0.023	0.045	0.047

Table OA6
Sample Distribution by Country after Removing Other M&A Filters

This table presents the distribution of countries in the sample. We provide the year of antitrust law enactment for each country, the number of unique acquirers, the number of domestic M&A observations, and the proportion of horizontal M&As for each country in the full sample. The sample period ranges from 1989 to 2015. Column 4, 5, and 6 are based on the sample that does not require an acquirer to own (after a merger) or acquire at least 50% of a target's shares, that does not exclude mergers with an acquirer associated with limited partnership, special purpose vehicle, recapitalization, or restructuring, and that does not only focus on completed deals.

Country (SDC Acquirer Nation Code)	Before Relaxing M&A Filters			After Relaxing M&A Filters		
	1 Number of Unique Acquirers	2 Number of Observations	3 % of Horizontal M&As	4 Number of Unique Acquirers	5 Number of Observations	6 % of Horizontal M&As
Australia (AU)	617	1,261	11.90%	808	1,844	12.47%
Brazil (BR)	57	158	22.78%	73	217	23.04%
Chile (CE)	18	25	12.00%	21	30	13.33%
China (CH)	925	1,532	10.31%	1,536	3,502	9.77%
France (FR)	117	180	15.00%	139	219	15.07%
Germany (WG)	82	108	13.89%	101	142	14.08%
Hong Kong (HK)	17	20	5.00%	30	49	2.04%
India (IN)	134	167	16.77%	196	280	18.93%
Indonesia (ID)	36	55	9.09%	62	100	9.00%
Japan (JP)	1,066	1,883	14.55%	1,234	2,409	14.03%
Malaysia (MA)	230	333	5.71%	334	606	5.12%
Mexico (MX)	16	26	34.62%	18	30	30.00%
Norway (NO)	71	132	10.61%	81	167	13.17%
Singapore (SG)	129	192	6.25%	182	293	5.80%
Switzerland (SZ)	25	35	14.29%	27	38	13.16%
Thailand (TH)	46	60	8.33%	92	146	10.96%
Türkiye (TK)	36	43	9.30%	48	62	11.29%
Taiwan (TW)	88	112	23.21%	178	246	21.14%
United Kingdom (UK)	966	3,256	12.41%	1,028	3,722	13.00%
United States (US)	5,255	17,535	27.43%	5,665	20,076	27.43%
Total	9,931	27,113		11,853	34,178	

Table OA7

Antitrust Law and Acquirer Reactions to Horizontal Merger Announcements: Removing Other Filters

This table reports how antitrust law enactment affects an acquirer's announcement returns for horizontal acquisitions. A horizontal merger is the case in which an acquirer and a target share the same four-digit SIC code (Alfaro and Charlton (2009)). We use an acquiring firm's five-day cumulative abnormal returns (CAR) surrounding a merger announcement as a dependent variable. For this table, we do not require a deal to be complete. An acquirer does not have to own (after a merger) or acquire at least 50% of a target's shares. An acquirer may be associated with limited partnership, special purpose vehicle, recapitalization, or restructuring. We include two-digit SIC industry, year, and country fixed effects. We compute *t*-statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constant is omitted for brevity. Appendix A in the main manuscript presents variable definitions.

	1	2	3
	CAR_5DAY	CAR_5DAY	CAR_5DAY
AFTER x TREAT x HORIZONTAL	-0.038*** (-6.95)	-0.035*** (-5.33)	-0.032*** (-3.51)
AFTER x TREAT	0.025*** (4.36)	0.023*** (3.93)	0.019*** (3.59)
TREAT x HORIZONTAL	0.027*** (6.56)	0.025*** (6.90)	0.023*** (4.12)
HORIZONTAL	-0.002* (-2.06)	-0.000	-0.001
LOG_ASSET		-0.007*** (-13.22)	-0.007*** (-13.26)
ROA		0.005 (0.75)	0.005 (0.79)
TOTAL_LEVERAGE		0.020*** (3.29)	0.022*** (4.19)
CASH		-0.013 (-1.63)	-0.013 (-1.55)
TANGIBILITY		-0.009*** (-4.23)	-0.009*** (-4.37)
TOBIN_Q		0.002*** (3.40)	0.002*** (3.22)
PURE_CASH		-0.001 (-0.53)	-0.001 (-0.28)
PURE_STOCK		0.008* (1.90)	0.009* (1.87)
TENDER		0.019** (2.11)	0.019* (2.06)
PUBLIC_TARGET		-0.025*** (-6.22)	-0.026*** (-6.60)
GDP_GROWTH			-0.178** (-2.16)
FDI_INFLOW			0.072 (1.24)
ICRG_QOG			-0.039 (-0.69)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	34,178	34,178	33,162
Adjusted R ²	0.017	0.044	0.045

Table OA8
Antitrust Law and Post-merger Change in Profitability for Horizontal M&As

This table shows how the post-merger change in an acquirer's profitability for horizontal mergers is affected by the antitrust law enactment. The dependent variable is the change in the industry (3-digit SIC)-median-adjusted operating income before depreciation and amortization scaled by book assets, from year $t+1$ to $t+2$ (or $t+3$) with t corresponding to the year of a merger announcement. We include year, country fixed effects and two-digit SIC industry or firm fixed effects. We compute t -statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constants are omitted for brevity. Appendix A presents variable definitions.

	$\Delta\text{PROFIT}_{t+1 \text{ to } 2}$ 1	$\Delta\text{PROFIT}_{t+1 \text{ to } 2}$ 2	$\Delta\text{PROFIT}_{t+1 \text{ to } 3}$ 3	$\Delta\text{PROFIT}_{t+1 \text{ to } 3}$ 4
AFTER x TREAT x HORIZONTAL	-0.011 (-0.55)	-0.028* (-1.85)	-0.014 (-0.88)	-0.043*** (-4.09)
AFTER x TREAT	0.023 (0.79)	0.021* (1.90)	0.006 (0.33)	0.017 (0.90)
TREAT x HORIZONTAL	0.008 (0.39)	0.023 (1.09)	0.016 (1.57)	0.030*** (3.59)
HORIZONTAL	-0.004 (-1.08)	-0.001 (-0.60)	-0.007* (-1.92)	-0.001 (-0.37)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	No	Yes	No
Acquiring Firm FE	No	Yes	No	Yes
Country FE	Yes	Yes	Yes	Yes
Observations	23,825	23,825	22,296	22,296
<i>Adjusted R</i> ²	0.004	0.410	0.004	0.644

Table OA9
Antitrust Law Enactment and Acquirer's Post-Merger Innovation Initiatives

This table reports how antitrust law enactment affects an acquirer's post-merger innovation incentives. We use the acquirer's R&D expenses scaled by assets for years $t+1$, $t+2$, and $t+3$, where year t is the merger announcement year. We set a firm's R&D expenses in a year equal to zero if they are missing. We include two-digit SIC industry, year, and country fixed effects. We compute t -statistics (in parentheses) using robust standard errors clustered at the country level. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively. The constants are omitted for brevity. Appendix A presents variable definitions.

	R&D _{t+1} 1	R&D _{t+2} 2	R&D _{t+3} 3
AFTER x TREAT x HORIZONTAL	0.016* (2.11)	0.018* (1.87)	0.011* (1.88)
AFTER x TREAT	-0.006 (-1.03)	-0.008 (-1.17)	-0.000 (-0.10)
TREAT x HORIZONTAL	-0.040*** (-5.56)	-0.043*** (-4.82)	-0.039*** (-5.61)
HORIZONTAL	0.015*** (8.86)	0.016*** (11.01)	0.018*** (9.50)
Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	25,329	23,900	22,376
Adjusted R ²	0.292	0.262	0.139