

Internet Appendix for

M&A Activity and the Capital Structure of Target Firms

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Table IA.I
Target Leverage Estimation Regressions

This table provides the coefficient estimates for the target leverage estimation model (1) by country. The firms come from a total of 22 countries and we employ the whole universe of firms available in Amadeus for the sample period from 1999 to 2015 to estimate the model. Panels A and B show the estimates for eleven countries each. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

Panel A: Coefficients for the target leverage estimation model (1) by country (1/2)

| | Dependent variable = LEVERAGE _t | | | | | | | | | | |
|-----------------------------------|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Austria | Belgium | Bulgaria | Czech Republic | Germany | Estonia | Spain | Finland | France | United Kingdom | Greece |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| $\ln(\text{TOTAL_ASSETS})_{t-1}$ | 0.035*** (0.003) | 0.053*** (0.000) | 0.014*** (0.001) | 0.014*** (0.000) | 0.035*** (0.002) | 0.036*** (0.001) | 0.052*** (0.001) | 0.040*** (0.001) | 0.026*** (0.000) | 0.034*** (0.002) | 0.048*** (0.002) |
| TANGIBILITY _{t-1} | 0.097*** (0.015) | 0.173*** (0.001) | 0.030*** (0.002) | 0.056*** (0.002) | 0.158*** (0.005) | 0.111*** (0.004) | 0.071*** (0.001) | 0.104*** (0.004) | 0.216*** (0.001) | 0.048*** (0.003) | 0.071*** (0.006) |
| GROWTH _{t-1} | 0.001 (0.002) | 0.015*** (0.000) | 0.001*** (0.000) | 0.002*** (0.000) | 0.005*** (0.001) | 0.011*** (0.001) | 0.005*** (0.000) | 0.017*** (0.001) | 0.012*** (0.000) | 0.008*** (0.001) | 0.004*** (0.001) |
| ROA _{t-1} | -0.065*** (0.008) | -0.055*** (0.001) | -0.009*** (0.001) | -0.017*** (0.001) | -0.085*** (0.003) | -0.071*** (0.002) | -0.125*** (0.001) | -0.091*** (0.002) | -0.060*** (0.001) | -0.039*** (0.002) | -0.134*** (0.005) |
| Intercept | -0.477*** (0.054) | -0.570*** (0.006) | -0.097*** (0.006) | -0.108*** (0.005) | -0.373*** (0.024) | -0.247*** (0.015) | -0.438*** (0.008) | -0.316*** (0.017) | -0.249*** (0.004) | -0.266*** (0.023) | -0.518*** (0.024) |
| Firm FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.75 | 0.74 | 0.73 | 0.58 | 0.77 | 0.70 | 0.75 | 0.72 | 0.63 | 0.68 | 0.77 |
| N | 49,183 | 2,638,418 | 742,316 | 935,582 | 381,299 | 244,238 | 2,993,373 | 417,530 | 5,714,704 | 531,225 | 203,469 |

Panel B: Coefficients for the target leverage estimation model (1) by country (2/2)

| | Dependent variable = LEVERAGE _t | | | | | | | | | | |
|---------------------------------|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Croatia | Hungary | Ireland | Italy | Lithuania | Latvia | Netherlands | Poland | Portugal | Sweden | Slovak Republic |
| | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| ln(TOTAL_ASSETS) _{t-1} | 0.031*** (0.001) | 0.011*** (0.001) | 0.006 (0.006) | 0.029*** (0.000) | 0.029*** (0.006) | 0.008*** (0.001) | 0.042*** (0.007) | 0.018*** (0.002) | 0.039*** (0.001) | 0.027*** (0.000) | 0.010*** (0.000) |
| TANGIBILITY _{t-1} | 0.089*** (0.003) | 0.008*** (0.002) | 0.092*** (0.014) | 0.045*** (0.001) | 0.106*** (0.020) | 0.070*** (0.003) | 0.090*** (0.017) | 0.098*** (0.005) | 0.074*** (0.003) | 0.191*** (0.002) | 0.020*** (0.001) |
| GROWTH _{t-1} | 0.004*** (0.000) | -0.001*** (0.000) | 0.013*** (0.004) | 0.001*** (0.000) | 0.023*** (0.005) | 0.000*** (0.000) | 0.004 (0.004) | 0.016*** (0.001) | 0.002** (0.001) | 0.009*** (0.000) | 0.000*** (0.000) |
| ROA _{t-1} | -0.019*** (0.001) | -0.004*** (0.000) | -0.055*** (0.009) | -0.053*** (0.001) | -0.191*** (0.020) | -0.002*** (0.000) | -0.093*** (0.012) | -0.071*** (0.004) | -0.086*** (0.002) | -0.057*** (0.001) | -0.006*** (0.000) |
| Intercept | -0.229*** (0.009) | -0.114*** (0.008) | 0.171** (0.087) | -0.237*** (0.004) | -0.272*** (0.086) | 0.075*** (0.008) | -0.606*** (0.120) | -0.155*** (0.024) | -0.240*** (0.018) | -0.226*** (0.006) | -0.059*** (0.004) |
| Firm FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.66 | 0.69 | 0.75 | 0.67 | 0.71 | 0.74 | 0.79 | 0.74 | 0.73 | 0.74 | 0.63 |
| N | 568,478 | 382,894 | 37,845 | 5,215,657 | 13,189 | 302,702 | 25,522 | 193,339 | 600,502 | 1,745,621 | 699,615 |

Table IA.II
Descriptive Statistics for Target Leverage

This table shows the country-specific descriptive statistics for the predicted target leverage values and their leverage deviations. The target leverage estimates are the fitted values from the estimated regression (1) for the country in which the target firm resides. Leverage deviations are calculated as a firm's actual leverage minus its fitted target.

| Country | | Mean | Median | Min | Max | Obs |
|---------------------|--------------------|--------|--------|--------|-------|-----------|
| AT (Austria) | Target leverage | 0.145 | 0.048 | 0.000 | 1.000 | 51,482 |
| | Leverage deviation | -0.003 | 0.000 | -0.771 | 0.793 | 51,482 |
| BE (Belgium) | Target leverage | 0.199 | 0.131 | 0.000 | 1.000 | 2,667,739 |
| | Leverage deviation | -0.003 | -0.003 | -0.894 | 0.997 | 2,667,739 |
| BG (Bulgaria) | Target leverage | 0.078 | 0.004 | 0.000 | 1.000 | 792,235 |
| | Leverage deviation | -0.002 | 0.000 | -0.817 | 0.909 | 792,235 |
| CZ (Czech Republic) | Target leverage | 0.086 | 0.024 | 0.000 | 1.000 | 969,010 |
| | Leverage deviation | -0.003 | 0.000 | -0.822 | 0.941 | 969,010 |
| DE (Germany) | Target leverage | 0.232 | 0.164 | 0.000 | 1.000 | 417,127 |
| | Leverage deviation | -0.001 | 0.000 | -0.786 | 0.847 | 417,127 |
| EE (Estonia) | Target leverage | 0.231 | 0.164 | 0.000 | 1.000 | 253,861 |
| | Leverage deviation | -0.002 | 0.000 | -0.911 | 0.903 | 253,861 |
| ES (Spain) | Target leverage | 0.311 | 0.273 | 0.000 | 1.000 | 3,084,502 |
| | Leverage deviation | 0.000 | 0.000 | -0.846 | 0.995 | 3,084,502 |
| FI (Finland) | Target leverage | 0.259 | 0.210 | 0.000 | 1.000 | 434,848 |
| | Leverage deviation | -0.002 | 0.000 | -0.856 | 0.925 | 434,848 |
| FR (France) | Target leverage | 0.140 | 0.089 | 0.000 | 1.000 | 5,855,787 |
| | Leverage deviation | -0.001 | -0.004 | -0.918 | 1.000 | 5,855,787 |
| GB (United Kingdom) | Target leverage | 0.279 | 0.227 | 0.000 | 1.000 | 573,135 |
| | Leverage deviation | -0.001 | 0.000 | -0.919 | 0.929 | 573,135 |
| GR (Greece) | Target leverage | 0.219 | 0.167 | 0.000 | 1.000 | 206,106 |
| | Leverage deviation | -0.002 | -0.002 | -0.746 | 0.858 | 206,106 |
| HR (Croatia) | Target leverage | 0.165 | 0.080 | 0.000 | 1.000 | 654,685 |
| | Leverage deviation | -0.004 | 0.000 | -0.962 | 0.998 | 654,685 |
| HU (Hungary) | Target leverage | 0.033 | 0.001 | 0.000 | 0.998 | 414,402 |
| | Leverage deviation | -0.002 | 0.000 | -0.731 | 0.868 | 414,402 |
| IE (Ireland) | Target leverage | 0.314 | 0.249 | 0.000 | 1.000 | 41,183 |
| | Leverage deviation | -0.001 | 0.000 | -0.866 | 0.803 | 41,183 |
| IT (Italy) | Target leverage | 0.162 | 0.088 | 0.000 | 1.000 | 5,982,291 |

| | | | | | | |
|----------------------|--------------------|--------|--------|--------|-------|-----------|
| | Leverage deviation | -0.001 | 0.000 | -0.866 | 0.960 | 5,982,291 |
| LT (Lithuania) | Target leverage | 0.240 | 0.217 | 0.000 | 0.982 | 13,946 |
| | Leverage deviation | 0.000 | 0.000 | -0.509 | 0.569 | 13,946 |
| LV (Latvia) | Target leverage | 0.181 | 0.057 | 0.000 | 1.000 | 321,277 |
| | Leverage deviation | -0.001 | 0.000 | -0.865 | 0.820 | 321,277 |
| NL (Netherlands) | Target leverage | 0.167 | 0.089 | 0.000 | 0.994 | 26,864 |
| | Leverage deviation | -0.002 | 0.000 | -0.688 | 0.627 | 26,864 |
| PL (Poland) | Target leverage | 0.172 | 0.128 | 0.000 | 1.000 | 204,694 |
| | Leverage deviation | -0.001 | 0.000 | -0.789 | 0.797 | 204,694 |
| PT (Portugal) | Target leverage | 0.303 | 0.273 | 0.000 | 1.000 | 644,053 |
| | Leverage deviation | -0.001 | 0.000 | -0.820 | 0.885 | 644,053 |
| SE (Sweden) | Target leverage | 0.178 | 0.078 | 0.000 | 1.000 | 1,777,873 |
| | Leverage deviation | -0.003 | -0.002 | -0.924 | 0.967 | 1,777,873 |
| SK (Slovak Republic) | Target leverage | 0.066 | 0.005 | 0.000 | 1.000 | 717,283 |
| | Leverage deviation | -0.001 | 0.000 | -0.813 | 0.933 | 717,283 |

Table IA.III**Robustness check: Re-defining optimized and mis-leveraged firms**

This table reports estimation results for regression (3) using revised definitions of optimized and mis-leveraged firms. Panel A (Panel B) defines optimized firms as those with actual leverage within 3% (5%) of target, while over-leveraged firms lie 3% (5%) above target and Under-leveraged firms lie more than 3% (5%) below. AFTER is a dummy variable that takes a value of one after the deal is completed [0, +5] and zero otherwise. Basic firm-level controls include the four Rajan-Zingales (1995) factors: firm size, asset tangibility, growth, and profitability. Specifications with all firm-level controls also account for capital expenditures, the proportion of short-term debt in total debt, and firm age. Country-level controls are total private credit to GDP, stock market capitalization to GDP and nominal GDP growth. All specifications include a set of firm and year fixed effects. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

Panel A: Re-defining Optimized and mis-leveraged firms, bandwidth of 3%

| | Dependent Variable = Acquired firm's LEVERAGE _t | | | | | |
|---------------------------|--|------------------|----------------------------|----------------------|-----------------------------|---------------------|
| | Optimized Target Firms | | Overleveraged Target Firms | | Underleveraged Target Firms | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | 0.002 (0.002) | 0.004 (0.003) | -0.106*** (0.005) | -0.107*** (0.006) | 0.061*** (0.004) | 0.052*** (0.005) |
| Basic firm-level controls | Yes | | Yes | | Yes | |
| All firm-level controls | | Yes | | Yes | | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 0.829 | 0.837 | 0.604 | 0.623 | 0.564 | 0.593 |
| N | 12875 | 8186 | 13037 | 7753 | 14388 | 8794 |

Panel B: Re-defining Optimized and mis-leveraged firms, bandwidth of 5%

| | Dependent Variable = Acquired firm's LEVERAGE _t | | | | | |
|---------------------------|--|------------------|----------------------------|----------------------|-----------------------------|---------------------|
| | Optimized Target Firms | | Overleveraged Target Firms | | Underleveraged Target Firms | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | 0.000 (0.002) | 0.001 (0.003) | -0.121*** (0.005) | -0.123*** (0.007) | 0.077*** (0.005) | 0.067*** (0.007) |
| Basic firm-level controls | Yes | | Yes | | Yes | |
| All firm-level controls | | Yes | | Yes | | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 0.807 | 0.817 | 0.593 | 0.611 | 0.517 | 0.552 |
| N | 18129 | 11563 | 11084 | 6542 | 11087 | 6628 |

Table IA-IV
Alternative Leverage Target Measure

Compare to Table IA-I. This table provides the coefficient estimates for the target leverage estimation model (10). The model is estimated in first differences using the generalized method of moments method (GMM). We estimate a separate regression model for all firms within each country and use the estimated coefficients to compute a leverage target for each acquired firm in the same country. Panel A and B show the coefficient estimates and the test statistics for 11 countries each. Panel C shows the within-country correlations between the targets estimated from model (1) and those estimated from the GMM model (10). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

Panel A: Coefficients for the target leverage estimation model (10) by country (1/2)

| | Dependent variable = LEVERAGE _{<i>t</i>} | | | | | | | | | | |
|--|---|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|----------------------|---------------------|
| | Austria | Belgium | Bulgaria | Czech Republic | Germany | Estonia | Spain | Finland | France | United Kingdom | Greece |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| LEVERAGE _{<i>t-1</i>} | 0.575** (0.230) | 0.837*** (0.035) | 0.637*** (0.019) | 0.576*** (0.026) | 0.740*** (0.195) | 0.743*** (0.196) | 0.800*** (0.166) | 0.772*** (0.178) | 0.687*** (0.113) | 0.827*** (0.055) | 0.517*** (0.080) |
| ln(TOTAL_ASSETS) _{<i>t-1</i>} | 0.324 (0.244) | -0.017 (0.014) | 0.016 (0.014) | -0.013 (0.018) | -0.058 (0.095) | 0.064 (0.051) | 0.007 (0.069) | -0.324 (0.288) | -0.042 (0.116) | -0.074*** (0.016) | 0.089 (0.067) |
| GROWTH _{<i>t-1</i>} | 0.197** (0.097) | 0.003 (0.005) | 0.003** (0.001) | 0.001 (0.001) | 0.014 (0.065) | 0.008 (0.005) | 0.062 (0.050) | 0.013 (0.022) | 0.020 (0.022) | -0.005 (0.007) | 0.033* (0.020) |
| ROA _{<i>t-1</i>} | 0.186 (0.213) | -0.029 (0.036) | 0.031*** (0.010) | 0.013 (0.009) | -0.059 (0.135) | -0.101*** (0.038) | -0.150** (0.070) | -0.007 (0.079) | 0.034 (0.088) | -0.046 (0.031) | 0.005 (0.035) |
| TANGIBILITY _{<i>t-1</i>} | 1.458** (0.672) | -0.066 (0.064) | -0.044* (0.025) | 0.098*** (0.032) | -0.290 (0.735) | -0.383 (0.285) | -0.210 (0.132) | 0.412 (0.676) | 0.186 (0.133) | 0.271*** (0.063) | 0.216 (0.175) |
| Firm FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Sargan test | 15.1 | 18.4 | 48.5 | 47.7 | 7.0 | 9.0 | 11.3 | 0.2 | 0.9 | 14.2 | 68.4 |
| Sargan df | 10 | 14 | 55 | 59 | 11 | 12 | 11 | 2 | 2 | 19 | 57 |
| <i>p</i> -value | 0.13 | 0.19 | 0.72 | 0.86 | 0.80 | 0.70 | 0.42 | 0.91 | 0.65 | 0.77 | 0.14 |
| Hansen test | 8.2 | 20.8 | 66.9 | 61.6 | 7.3 | 7.2 | 8.2 | 1.4 | 1.6 | 18.6 | 67.0 |
| Hansen df | 10 | 14 | 55 | 59 | 11 | 12 | 11 | 2 | 2 | 19 | 57 |
| <i>p</i> -value | 0.61 | 0.11 | 0.13 | 0.38 | 0.78 | 0.85 | 0.70 | 0.51 | 0.45 | 0.49 | 0.17 |
| AR(1) <i>p</i> -value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.46 | 0.00 | 0.00 |
| AR(2) <i>p</i> -value | 0.24 | 0.10 | 0.09 | 0.42 | 0.03 | 0.22 | 0.14 | 0.56 | 0.63 | 0.25 | 0.23 |
| <i>N</i> | 13,721 | 21,563 | 84,235 | 34,808 | 62,878 | 69,846 | 129,591 | 13,347 | 41,943 | 15,457 | 13,733 |

Panel B: Coefficients for the target leverage estimation model (10) by country (2/2)

| Independent Variables | Dependent variable = LEVERAGE _t | | | | | | | | | | |
|---------------------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|----------------------|---------------------|
| | Croatia | Hungary | Ireland | Italy | Lithuania | Latvia | Netherlands | Poland | Portugal | Sweden | Slovak Republic |
| | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| LEVERAGE _{t-1} | 0.626*** (0.058) | 0.386*** (0.105) | 0.693*** (0.199) | 0.482*** (0.028) | 0.594*** (0.073) | 0.356*** (0.086) | 0.838*** (0.050) | 0.628*** (0.066) | 0.635*** (0.055) | 0.750*** (0.063) | 0.732*** (0.021) |
| ln(TOTAL_ASSETS) _{t-1} | -0.054 (0.065) | 0.018 (0.020) | 0.064 (0.082) | -0.010* (0.005) | 0.007 (0.014) | -0.027 (0.118) | -0.070*** (0.017) | -0.050* (0.027) | -0.050*** (0.018) | -0.030*** (0.007) | -0.005 (0.005) |
| GROWTH _{t-1} | -0.032 (0.041) | 0.001 (0.007) | 0.005 (0.078) | 0.004** (0.002) | 0.022** (0.011) | -0.001 (0.003) | 0.029*** (0.011) | -0.003 (0.004) | -0.007 (0.009) | -0.001 (0.001) | 0.000 (0.000) |
| ROA _{t-1} | 0.063 (0.201) | 0.029 (0.048) | -0.237** (0.094) | -0.050** (0.022) | -0.125 (0.157) | -0.037 (0.039) | -0.162*** (0.057) | 0.059 (0.104) | 0.063 (0.090) | -0.004 (0.013) | 0.022*** (0.006) |
| TANGIBILITY _{t-1} | 0.126 (0.178) | 0.033 (0.044) | -1.382** (0.589) | 0.171*** (0.059) | 0.067 (0.083) | 0.012 (0.093) | 0.318*** (0.089) | 0.158 (0.134) | 0.199*** (0.074) | 0.116 (0.100) | 0.038* (0.020) |
| Firm FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Sargan test | 0.1 | 29.4 | 18.4 | 23.5 | 10.3 | 0.3 | 23.0 | 23.7 | 26.7 | 19.2 | 18.2 |
| Sargan df | 41 | 54 | 11 | 18 | 13 | 3 | 17 | 18 | 18 | 17 | 16 |
| p-value | 1.00 | 1.00 | 0.07 | 0.17 | 0.67 | 0.96 | 0.15 | 0.17 | 0.08 | 0.32 | 0.31 |
| Hansen test | 43.5 | 48.0 | 15.6 | 26.9 | 14.5 | 1.2 | 21.9 | 23.5 | 23.6 | 25.7 | 15.4 |
| Hansen df | 41 | 54 | 11 | 18 | 13 | 3 | 17 | 18 | 18 | 17 | 16 |
| p-value | 0.364 | 0.705 | 0.157 | 0.081 | 0.343 | 0.763 | 0.189 | 0.171 | 0.169 | 0.080 | 0.499 |
| AR(1) p-value | 0.42 | 0.17 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| AR(2) p-value | 0.37 | 0.55 | 0.10 | 0.12 | 0.34 | 0.72 | 0.38 | 0.85 | 0.03 | 0.05 | 0.29 |
| N | 64,282 | 7,361 | 18,012 | 32,323 | 7,870 | 6,104 | 13,373 | 7,213 | 9,789 | 41,710 | 71,623 |

Panel C: Correlations between the estimated targets from the target leverage estimation model (1) and the GMM model (10) by country

| TARGET_LEVERAGE_CORRELATION | Austria | Belgium | Bulgaria | Czech Republic | Germany | Estonia | Spain | Finland | France | United Kingdom | Greece |
|-----------------------------|---------|---------|----------|----------------|---------|---------|-------|---------|--------|----------------|--------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| TARGET_LEVERAGE_CORRELATION | 0.499 | 0.808 | 0.715 | 0.750 | 0.654 | 0.602 | 0.812 | 0.374 | 0.729 | 0.690 | 0.714 |

| TARGET_LEVERAGE_CORRELATION | Croatia | Hungary | Ireland | Italy | Lithuania | Latvia | Netherlands | Poland | Portugal | Sweden | Slovak Republic |
|-----------------------------|---------|---------|---------|-------|-----------|--------|-------------|--------|----------|--------|-----------------|
| | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| TARGET_LEVERAGE_CORRELATION | 0.319 | 0.414 | 0.362 | 0.744 | 0.844 | 0.306 | 0.770 | 0.736 | 0.777 | 0.870 | 0.823 |

Table IA.V

Robustness check: Domestic vs. cross-country acquisitions

This table reports the results of re-estimating (3) separately for domestic and cross-country acquisitions. The sample covers the period of +/- 5 years around the acquisition event. Panel A reports estimation results for the subsample of domestic deals by domestic business groups. Panel B presents the results for the subsample of cross-border deals accounting for the difference in corporate tax rates between target and acquiring countries by controlling for acquirer and target country fixed effects. AFTER is a dummy variable that takes a value of one after the deal is completed [0, +5] and zero otherwise. *Basic firm-level controls* include the four Rajan-Zingales (1995) factors: firm size, asset tangibility, growth, and profitability. *All firm-level controls* also include capital expenditures, the proportion of short-term debt in total debt, and firm age. *Country-level controls* are total private credit to GDP, stock market capitalization to GDP and nominal GDP growth. All specifications include a set of firm and year fixed effects. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

Panel A: Domestic deals by domestic business groups

| | Dependent Variable = Acquired firm's LEVERAGE _t | | | | | |
|---------------------------|--|------------------|-----------------------------|----------------------|------------------------------|---------------------|
| | Optimized Target Firms | | Over-leveraged Target Firms | | Under-leveraged Target Firms | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | 0.003 (0.004) | 0.008 (0.006) | -0.087*** (0.005) | -0.089*** (0.007) | 0.044*** (0.004) | 0.036*** (0.005) |
| Basic firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| All firm-level controls | No | Yes | No | Yes | No | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.849 | 0.838 | 0.643 | 0.675 | 0.641 | 0.667 |
| N | 2,955 | 1,802 | 7,773 | 4,894 | 10,222 | 6,479 |

Panel B: Mergers across national borders

| | Dependent Variable = Acquired firm's LEVERAGE _t | | | | | |
|---------------------------|--|------------------|-----------------------------|----------------------|------------------------------|--------------------|
| | Optimized Target Firms | | Over-leveraged Target Firms | | Under-leveraged Target Firms | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | 0.004 (0.004) | 0.004 (0.005) | -0.093*** (0.008) | -0.101*** (0.010) | 0.032*** (0.007) | 0.026** (0.010) |
| All firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Acquirer country FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Target country FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Year×Target country FEs | | Yes | | Yes | | Yes |
| Year×Acquirer country FEs | | Yes | | Yes | | Yes |
| Adjusted R ² | 0.892 | 0.900 | 0.618 | 0.640 | 0.599 | 0.617 |
| N | 1,789 | 1,789 | 4,151 | 4,151 | 4,678 | 4,678 |

Table IA.VI
Industry Integration

This table replicates the estimation in Table 4 conditional on industry integration. The sample covers the period of up to five years before and after the acquisition. AFTER is a dummy variable that is equal to one in the year(s) after the acquisition and zero otherwise. The transaction is considered to be horizontal when an acquirer and an acquisition target operate in the same NACE v2 industry. Vertical and unrelated transactions are defined using the index of vertical dependence from Ahern and Harford (2014). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. The definitions of all variables are provided in Table A.

| | Dependent Variable= Leverage _{<i>t</i>} | | | | | | | | |
|-------------------------|--|-------------------|-------------------|-----------------------------|----------------------|----------------------|------------------------------|--------------------|---------------------|
| | Optimized Target Firms | | | Over-leveraged Target Firms | | | Under-leveraged Target Firms | | |
| | Horizontal | Vertical | Unrelated | Horizontal | Vertical | Unrelated | Horizontal | Vertical | Unrelated |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| AFTER | 0.007 (0.006) | -0.015 (0.010) | -0.007 (0.010) | -0.076*** (0.007) | -0.106*** (0.015) | -0.097*** (0.015) | 0.039*** (0.006) | 0.025** (0.012) | 0.047*** (0.013) |
| All firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.85 | 0.89 | 0.89 | 0.67 | 0.59 | 0.60 | 0.65 | 0.58 | 0.59 |
| <i>N</i> | 1,460 | 430 | 491 | 4,298 | 1,179 | 1,176 | 5,359 | 1,468 | 1,292 |

Table IA-VII
Attrition Bias

Compare to Table 4 in the paper. This table contains regression results examining leverage changes after the acquisition event for the sample of acquired firms and their matches that remained in the sample over the entire indicated period (e.g. [-5, +5]). AFTER is a dummy variable that takes a value of one after the deal is completed and zero otherwise. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

| | Dependent Variable= Acquired firm's LEVERAGE _t | | | | | | | | | | | |
|---------------------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------------|-----------------------|-----------------------|-----------------------|------------------------------|-----------------------|-----------------------|-----------------------|
| | Optimized Target Firms | | | | Over-leveraged Target Firms | | | | Under-leveraged Target Firms | | | |
| | No attrition [-5, +5] | No attrition [-1, +5] | No attrition [-1, +4] | No attrition [-1, +3] | No attrition [-5, +5] | No attrition [-1, +5] | No attrition [-1, +4] | No attrition [-1, +3] | No attrition [-5, +5] | No attrition [-1, +5] | No attrition [-1, +4] | No attrition [-1, +3] |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| AFTER | -0.005 (0.011) | 0.010 (0.008) | 0.008 (0.007) | 0.007 (0.005) | -0.081*** (0.011) | -0.080*** (0.007) | -0.083*** (0.006) | -0.087*** (0.006) | 0.034*** (0.009) | 0.032*** (0.006) | 0.033*** (0.005) | 0.034*** (0.005) |
| ln(TOTAL_ASSETS) _{t-1} | -0.007 (0.017) | -0.008 (0.008) | -0.012 (0.007) | -0.008 (0.006) | 0.053*** (0.011) | 0.052*** (0.007) | 0.055*** (0.006) | 0.049*** (0.005) | 0.048*** (0.009) | 0.034*** (0.006) | 0.031*** (0.006) | 0.033*** (0.005) |
| TANGIBILITY _{t-1} | 0.247*** (0.095) | 0.127*** (0.034) | 0.092*** (0.031) | 0.092*** (0.028) | 0.129*** (0.035) | 0.113*** (0.022) | 0.104*** (0.020) | 0.119*** (0.021) | -0.030 (0.036) | 0.042 (0.026) | 0.064*** (0.024) | 0.071*** (0.022) |
| GROWTH _{t-1} | -0.005 (0.007) | 0.004 (0.004) | 0.003 (0.002) | 0.003 (0.002) | 0.006 (0.008) | 0.003 (0.004) | 0.002 (0.003) | 0.003 (0.003) | -0.008 (0.006) | 0.001 (0.003) | 0.003 (0.002) | 0.003 (0.002) |
| ROA _{t-1} | 0.065 (0.043) | -0.004 (0.016) | -0.001 (0.015) | -0.005 (0.012) | -0.174*** (0.048) | -0.164*** (0.024) | -0.150*** (0.021) | -0.142*** (0.019) | -0.095*** (0.031) | -0.129*** (0.022) | -0.129*** (0.020) | -0.143*** (0.018) |
| CAPEX _{t-1} | -0.012 (0.048) | 0.008 (0.027) | 0.051* (0.026) | 0.026 (0.024) | 0.058 (0.037) | 0.023 (0.023) | 0.019 (0.020) | 0.024 (0.018) | 0.084*** (0.029) | 0.101*** (0.020) | 0.100*** (0.018) | 0.104*** (0.017) |
| ST_DEBT _{t-1} | -0.004 (0.016) | 0.001 (0.008) | 0.005 (0.007) | 0.009* (0.005) | 0.017 (0.011) | 0.001 (0.007) | 0.007 (0.007) | 0.010* (0.006) | 0.014* (0.008) | 0.015*** (0.006) | 0.012** (0.005) | 0.008 (0.005) |
| FIRM_AGE _{t-1} | 0.008 (0.041) | 0.018 (0.019) | 0.007 (0.013) | 0.002 (0.009) | 0.047 (0.033) | -0.048** (0.020) | -0.030 (0.018) | -0.063*** (0.017) | -0.058 (0.036) | 0.013 (0.017) | 0.018 (0.014) | 0.008 (0.013) |
| PRIVATE_CREDIT/ GDP _{t-1} | -0.000 (0.001) | 0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) | 0.000 (0.000) | 0.001** (0.000) | 0.001*** (0.000) | 0.000 (0.000) | 0.001*** (0.000) | 0.001*** (0.000) | 0.001*** (0.000) |
| MARKET_CAP/ GDP _{t-1} | 0.001 (0.000) | 0.001* (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000** (0.000) | 0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) |
| GDP_GROWTH _{t-1} | 0.002 (0.000) | -0.001 (0.000) | -0.002 (0.000) | -0.002 (0.000) | 0.004* (0.000) | 0.001 (0.000) | 0.002* (0.000) | 0.002 (0.000) | -0.000 (0.000) | 0.002 (0.000) | 0.001 (0.000) | -0.000 (0.000) |

| | | | | | | | | | | | | |
|--------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Intercept | (0.004) 0.176 (0.354) | (0.002) 0.101 (0.142) | (0.002) 0.284** (0.126) | (0.001) 0.214** (0.097) | (0.002) -0.950*** (0.213) | (0.001) -0.581*** (0.129) | (0.001) -0.745*** (0.116) | (0.001) -0.520*** (0.105) | (0.003) -0.508*** (0.193) | (0.002) -0.522*** (0.118) | (0.001) -0.494*** (0.104) | (0.001) -0.471*** (0.098) |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 0.788 | 0.840 | 0.849 | 0.849 | 0.613 | 0.655 | 0.664 | 0.658 | 0.673 | 0.672 | 0.666 | 0.653 |
| <i>N</i> | 520 | 1320 | 1794 | 2327 | 2153 | 4952 | 6026 | 7205 | 2674 | 6058 | 7348 | 8890 |

Table IA-VIII
Omitting Zero-Leverage Firms

Compare to Table 4 in the paper. This table reports estimation results from regression (3) while eliminating zero-leverage firms. The sample covers the period of +/- 5 years around the acquisition event. AFTER is a dummy variable that takes a value of one after the deal is completed [0, +5] and zero otherwise. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

| | Dependent Variable= LEVERAGE _t | | | | | | | | |
|-----------------------------------|---|----------------------|----------------------|-----------------------------|----------------------|----------------------|------------------------------|----------------------|----------------------|
| | Optimized Target Firms | | | Over-leveraged Target Firms | | | Under-leveraged Target Firms | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| AFTER | 0.005 (0.005) | 0.008 (0.006) | 0.008 (0.006) | -0.080*** (0.004) | -0.080*** (0.005) | -0.082*** (0.005) | 0.052*** (0.004) | 0.043*** (0.005) | 0.044*** (0.005) |
| ln(TOTAL_ASSETS) _{t-1} | 0.006 (0.006) | -0.013 (0.009) | -0.012 (0.009) | 0.038*** (0.004) | 0.044*** (0.006) | 0.046*** (0.006) | 0.038*** (0.004) | 0.025*** (0.006) | 0.029*** (0.006) |
| TANGIBILITY _{t-1} | 0.156*** (0.031) | 0.126*** (0.036) | 0.124*** (0.036) | 0.121*** (0.016) | 0.127*** (0.021) | 0.118*** (0.021) | 0.111*** (0.016) | 0.081*** (0.022) | 0.065*** (0.022) |
| GROWTH _{t-1} | -0.002 (0.004) | -0.006 (0.005) | -0.005 (0.005) | -0.002 (0.002) | -0.004 (0.003) | -0.001 (0.003) | 0.000 (0.003) | -0.001 (0.002) | 0.002 (0.002) |
| ROA _{t-1} | -0.047*** (0.017) | | -0.026 (0.020) | -0.120*** (0.015) | | -0.115*** (0.019) | -0.140*** (0.015) | | -0.141*** (0.020) |
| CAPEX _{t-1} | | 0.043 (0.029) | 0.043 (0.029) | | 0.012 (0.018) | 0.012 (0.018) | | 0.121*** (0.016) | 0.122*** (0.016) |
| ST_DEBT _{t-1} | | -0.027*** (0.007) | -0.027*** (0.007) | | -0.052*** (0.007) | -0.051*** (0.007) | | -0.059*** (0.006) | -0.058*** (0.006) |
| FIRM_AGE _{t-1} | | -0.014 (0.013) | -0.014 (0.013) | | -0.067*** (0.014) | -0.064*** (0.014) | | 0.017 (0.013) | 0.018 (0.013) |
| PRIVATE_CREDIT/GDP _{t-1} | -0.000 (0.000) | 0.000 (0.000) | -0.000 (0.000) | 0.001*** (0.000) | 0.001*** (0.000) | 0.001*** (0.000) | 0.001*** (0.000) | 0.001*** (0.000) | 0.001*** (0.000) |
| MARKET_CAP/GDP _{t-1} | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.000** (0.000) | 0.000** (0.000) | 0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) |
| GDP_GROWTH _{t-1} | -0.001 (0.001) | -0.003 (0.002) | -0.003 (0.002) | -0.001 (0.001) | 0.001 (0.001) | 0.001 (0.001) | -0.000 (0.001) | -0.001 (0.001) | -0.001 (0.001) |
| Intercept | 0.032 (0.116) | 0.399** (0.157) | 0.379** (0.153) | -0.463*** (0.075) | -0.337*** (0.109) | -0.380*** (0.109) | -0.540*** (0.077) | -0.327*** (0.104) | -0.396*** (0.103) |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 0.828 | 0.839 | 0.839 | 0.645 | 0.668 | 0.671 | 0.621 | 0.637 | 0.642 |
| N | 3269 | 2360 | 2360 | 13783 | 8446 | 8446 | 15197 | 9797 | 9797 |

Table IA.IX
Small vs. large acquisitions

This table reports the results of re-estimating (3) separately for small and large target, determined as target size in the bottom or top quartile. The sample covers the period of +/- 5 years around the acquisition event. AFTER is a dummy variable that takes a value of one after the deal is completed [0, +5] and zero otherwise. All firm-level include the four Rajan-Zingales (1995) factors: firm size, asset tangibility, growth, and profitability, as well as capital expenditures, the proportion of short-term debt in total debt, and firm age. Country-level *controls* are total private credit to GDP, stock market capitalization to GDP and nominal GDP growth. All specifications include a set of firm and year fixed effects. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

| | Dependent Variable = Acquired firm's LEVERAGE _{<i>t</i>} | | | | | |
|--|---|--------------------|----------------------------|----------------------|-----------------------------|---------------------|
| | Optimized Target Firms | | Overleveraged Target Firms | | Underleveraged Target Firms | |
| | Small (Bottom 1/4) | Large (Top 1/4) | Small (Bottom 1/4) | Large (Top 1/4) | Small (Bottom 1/4) | Large (Top 1/4) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | 0.010 (0.006) | 0.003 (0.010) | -0.111*** (0.013) | -0.090*** (0.012) | 0.047*** (0.009) | 0.027*** (0.010) |
| All firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R-squared | 0.791 | 0.896 | 0.620 | 0.709 | 0.613 | 0.738 |
| <i>N</i> | 955 | 724 | 1687 | 2418 | 2557 | 2746 |
| <i>Difference in coefficients (Small vs Large)</i> | 0.007 | | -0.021 | | 0.020 | |

Table IA.X
No change in total assets

This table reports estimation results for regression (3) when the sample is restricted to firms that changed their total assets by no more than 10% in the two years following the acquisition. AFTER is a dummy variable that takes a value of one after the deal is completed [0, +5] and zero otherwise. Basic firm-level controls include the four Rajan-Zingales (1995) factors: firm size, asset tangibility, growth, and profitability. Specifications with all firm-level controls also account for capital expenditures, the proportion of short-term debt in total debt, and firm age. Country-level controls are total private credit to GDP, stock market capitalization to GDP and nominal GDP growth. All specifications include a set of firm and year fixed effects. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level correspondingly. Variable definitions are provided in Table A.

| | Dependent Variable = Acquired firm's LEVERAGE _{<i>t</i>} | | | | | |
|---------------------------|---|-------------------|----------------------|----------------------|---------------------|---------------------|
| | Optimized | | Over-leveraged | | Under-leveraged | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| AFTER | -0.009 (0.007) | -0.011 (0.009) | -0.083*** (0.008) | -0.074*** (0.010) | 0.031*** (0.008) | 0.025*** (0.009) |
| Basic firm-level controls | Yes | | Yes | | Yes | |
| All firm-level controls | | Yes | | Yes | | Yes |
| Country-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm & Year FEs | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.876 | 0.878 | 0.660 | 0.670 | 0.652 | 0.674 |
| N | 1,027 | 730 | 3,080 | 2,024 | 3,411 | 2,270 |