

Internet Appendix for

The impact of currency risk on US MNCs: New evidence from returns and cross-border investment around currency crises

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IA. 1 Comparisons of sample firm characteristics and control variables by country

Table IA.1 Comparisons of sample US MNC firm characteristics across the tied-\$ and tied-other countries

Columns (1) and (2) report the country-level sample sizes for the X21CNTRY sample that are used in the regime shift announcement date event study. The remaining columns report equal-weighted means of characteristics of the sample firms. Means for the tied-\$ and tied-other countries are reported separately. The variable specifications are described in Appendix B.

| Country | N (1) | % of sample (2) | Size (SIZE) (3) | Market- to-book (MTB) (4) | Sales Growth (GROWTH) (5) | Market Leverage (LEV) (6) | Cash Flow (CF) (7) | R&D (RD) (8) | Foreign Sale % (FSALE) (9) | Currency Hedging (DERIVSUSE) (10) | Geographic Segments (GEOSEG) (11) |
|---|------------|-----------------------|-----------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------|--------------------|-------------------------------------|--|--|
| <i>Tied-\$</i> | | | | | | | | | | | |
| Mexico | 119 | 9.1% | 7.655 | 3.299 | 0.080 | 0.220 | 0.010 | 0.037 | 0.681 | 0.000 | 0.000 |
| Thailand | 49 | 3.7% | 8.346 | 4.818 | 0.100 | 0.232 | 0.013 | 0.034 | 0.612 | 0.041 | 0.367 |
| Philippines | 40 | 3.0% | 8.414 | 4.706 | 0.069 | 0.212 | 0.012 | 0.043 | 0.619 | 0.025 | 0.500 |
| Malaysia | 50 | 3.8% | 8.303 | 4.212 | 0.059 | 0.214 | 0.018 | 0.043 | 0.648 | 0.040 | 0.360 |
| Indonesia | 31 | 2.4% | 8.182 | 4.059 | 0.070 | 0.208 | 0.011 | 0.038 | 0.642 | 0.032 | 0.258 |
| South Korea | 75 | 5.7% | 7.979 | 4.649 | 0.123 | 0.212 | 0.021 | 0.055 | 0.612 | 0.160 | 0.000 |
| Russia | 47 | 3.6% | 8.319 | 5.470 | 0.183 | 0.232 | 0.007 | 0.041 | 0.584 | 0.213 | 2.234 |
| Brazil | 142 | 10.8% | 7.961 | 3.541 | 0.099 | 0.250 | 0.001 | 0.042 | 0.634 | 0.183 | 3.134 |
| Ecuador | 21 | 1.6% | 9.102 | 6.760 | 0.055 | 0.290 | -0.003 | 0.040 | 0.631 | 0.190 | 3.190 |
| Chile | 54 | 4.1% | 8.453 | 6.104 | 0.059 | 0.250 | -0.001 | 0.035 | 0.607 | 0.278 | 2.889 |
| Colombia | 46 | 3.5% | 8.619 | 5.737 | 0.072 | 0.277 | -0.003 | 0.042 | 0.581 | 0.261 | 3.087 |
| Turkey | 40 | 3.0% | 9.153 | 5.962 | 0.143 | 0.277 | 0.002 | 0.047 | 0.534 | 0.275 | 3.775 |
| Argentina | 103 | 7.8% | 8.558 | 2.341 | 0.066 | 0.299 | 0.011 | 0.039 | 0.566 | 0.184 | 3.748 |
| Venezuela | 65 | 4.9% | 8.843 | 4.638 | 0.087 | 0.278 | 0.012 | 0.044 | 0.592 | 0.215 | 4.046 |
| Uruguay | 31 | 2.4% | 9.042 | 5.784 | 0.051 | 0.289 | 0.006 | 0.037 | 0.551 | 0.194 | 3.548 |
| Total/EW Mean | 913 | 69.5% | 8.462 | 4.805 | 0.088 | 0.249 | 0.008 | 0.041 | 0.606 | 0.153 | 2.076 |
| <i>Tied-other</i> | | | | | | | | | | | |
| Finland | 26 | 2.0% | 8.071 | 3.604 | 0.058 | 0.204 | 0.013 | 0.044 | 0.509 | 0.000 | 0.000 |
| UK | 118 | 9.0% | 7.578 | 2.852 | 0.046 | 0.238 | 0.013 | 0.057 | 0.689 | 0.000 | 0.000 |
| Italy | 78 | 5.9% | 7.930 | 3.244 | 0.053 | 0.238 | 0.018 | 0.056 | 0.614 | 0.000 | 0.051 |
| Sweden | 49 | 3.7% | 7.962 | 2.789 | 0.053 | 0.217 | 0.013 | 0.046 | 0.617 | 0.000 | 0.000 |
| Norway | 39 | 3.0% | 8.014 | 2.497 | 0.050 | 0.229 | 0.003 | 0.041 | 0.580 | 0.000 | 0.000 |
| Czech Republic | 24 | 1.8% | 8.368 | 5.005 | 0.193 | 0.206 | 0.027 | 0.034 | 0.596 | 0.083 | 0.458 |
| Slovak Republic | 15 | 1.1% | 9.059 | 7.896 | 0.180 | 0.189 | 0.023 | 0.059 | 0.580 | 0.133 | 3.200 |
| Poland | 52 | 4.0% | 8.438 | 6.556 | 0.135 | 0.282 | 0.008 | 0.036 | 0.567 | 0.288 | 3.750 |
| Total/ EW Mean | 401 | 30.5% | 8.178 | 4.305 | 0.096 | 0.226 | 0.015 | 0.047 | 0.594 | 0.063 | 0.932 |
| Tied-\$ - Tied-other | | | 0.284 | 0.500 | -0.008 | 0.024 | -0.007* | -0.006* | 0.012 | 0.090* | 1.143 |
| <i>t</i> -test for diff. [<i>p</i> -value] | | | [0.155] | [0.458] | [0.686] | [0.101] | [0.050] | [0.079] | [0.528] | [0.054] | [0.117] |

Table IA.1.2 Comparisons of control variables across the tied-\$ and tied-other countries

Equal-weighted means of the control variables included in the regime shift announcement date conditional return model (eqn. (1)). Means for the tied-\$ and tied-other countries are reported separately. The variables are described in Appendix B. *** {**} (*) indicate significance at the 1% {5%} (10%) level in a two-sided test.

Panel A: Proxies for the change in the probability of a regime shift

| Country | Expected = 1 based on news report (EXPECT_NEWS) (1) | Expected = 1 for regional followers (EXPECT_REGIO N) (2) | Expected = 1 if unusual reserve drop in prior 3 months (EXPECT_ΔRES) (3) | Devaluations over prior two months (DEVALUE_P2 M) (4) |
|---|--|--|--|---|
| <i>Tied-\$</i> | | | | |
| Mexico | 0 | 0 | 0 | 1 |
| Thailand | 0 | 0 | 1 | 1 |
| Philippines | 0 | 1 | 0 | 0 |
| Malaysia | 0 | 1 | 1 | 0 |
| Indonesia | 1 | 1 | 0 | 0 |
| South Korea | 1 | 1 | 1 | 1 |
| Russia | 0 | 0 | 0 | 0 |
| Brazil | 1 | 0 | 0 | 1 |
| Ecuador | 1 | 1 | 0 | 0 |
| Chile | 1 | 1 | 1 | 0 |
| Colombia | 1 | 1 | 0 | 0 |
| Turkey | 0 | 1 | 1 | 0 |
| Argentina | 0 | 0 | 0 | 1 |
| Venezuela | 0 | 1 | 0 | 0 |
| Uruguay | 0 | 1 | 0 | 0 |
| EW Mean | 0.400 | 0.667 | 0.333 | 0.333 |
| <i>Tied-other</i> | | | | |
| Finland | 0 | 0 | 0 | 0 |
| UK | 0 | 1 | 0 | 0 |
| Italy | 0 | 1 | 1 | 1 |
| Sweden | 1 | 1 | 0 | 0 |
| Norway | 1 | 1 | 1 | 0 |
| Czech Republic | 0 | 0 | 0 | 0 |
| Slovak Republic | 1 | 0 | 0 | 0 |
| Poland | 0 | 0 | 0 | 0 |
| EW Mean | 0.375 | 0.500 | 0.250 | 0.125 |
| Tied-\$ - Tied-other | 0.025 | 0.167 | 0.083 | 0.208 |
| <i>t</i> -test for diff. [<i>p</i> -value] | [0.912] | [0.458] | [0.696] | [0.300] |

Table IA.1.2 (continued)*Panel B: Proxies for value-relevant concurrent effects of the regime shift*

| Country | Abs. value of 1-day local market return scaled (LOCALRET1) (5) | Abs. value of 1-day currency change (CURRΔ1) (6) | Abs. value of full local market return (LOCALRET FULL) (7) | Abs. value of full currency change (CURRΔFULL) (8) | Inflation for prior 12 months (INFL) (9) | Other reforms announced (ANNC_ REFS) (10) | Sig. gov't personnel changes announced (ANNC_ PERS) (11) | Concurrent announcements (CONCANNCS) (12) |
|--|---|---|---|---|--|---|--|--|
| <i>Tied-\$</i> | | | | | | | | |
| Mexico | 2.902 | 0.152 | 0.085 | 0.269 | 0.200 | 0 | 0 | 0 |
| Thailand | 3.161 | 0.066 | 0.090 | 0.059 | 0.047 | 0 | 0 | 0 |
| Philippines | 4.011 | 0.119 | 0.041 | 0.120 | 0.059 | 0 | 0 | 0 |
| Malaysia | 2.146 | 0.017 | 0.163 | 0.080 | 0.030 | 0 | 0 | 0 |
| Indonesia | 1.698 | 0.047 | 0.113 | 0.126 | 0.031 | 1 | 0 | 1 |
| South Korea | 2.856 | 0.096 | 0.391 | 0.366 | 0.043 | 1 | 0 | 1 |
| Russia | 0.882 | 0.030 | 1.050 | 0.107 | 0.101 | 1 | 0 | 1 |
| Brazil | 5.986 | 0.102 | 0.032 | 0.199 | 0.038 | 0 | 1 | 1 |
| Ecuador | 0.000 | 0.091 | — | 0.367 | 0.370 | 0 | 1 | 1 |
| Chile | 0.909 | 0.004 | 0.429 | 0.093 | 0.040 | 1 | 0 | 1 |
| Colombia | 0.638 | 0.007 | 0.201 | 0.169 | 0.135 | 1 | 0 | 1 |
| Turkey | 1.734 | 0.312 | 0.366 | 0.321 | 0.536 | 1 | 0 | 1 |
| Argentina | 0.000 | 0.054 | 0.489 | 0.533 | -0.007 | 1 | 0 | 1 |
| Venezuela | 4.511 | 0.197 | 0.176 | 0.266 | 0.125 | 1 | 0 | 1 |
| Uruguay | 0.000 | 0.162 | — | 0.335 | 0.045 | 0 | 0 | 0 |
| EW Mean | 2.096 | 0.097 | 0.279 | 0.227 | 0.120 | 0.533 | 0.133 | 0.667 |
| <i>Tied-other</i> | | | | | | | | |
| Finland | 3.226 | 0.009 | 0.383 | 0.027 | 0.032 | 0 | 0 | 0 |
| UK | 0.150 | 0.017 | 0.019 | 0.072 | 0.057 | 0 | 0 | 0 |
| Italy | 1.511 | 0.013 | 0.195 | 0.073 | 0.055 | 1 | 0 | 1 |
| Sweden | 1.871 | 0.061 | 0.159 | 0.174 | 0.034 | 1 | 0 | 1 |
| Norway | 2.714 | 0.052 | 0.198 | 0.186 | 0.024 | 0 | 0 | 0 |
| Czech Republic | 2.881 | 0.016 | 0.092 | 0.052 | 0.006 | 0 | 1 | 1 |
| Slovak Republic | 0.718 | 0.003 | 0.033 | 0.002 | 0.068 | 0 | 0 | 0 |
| Poland | 1.042 | 0.004 | 0.243 | 0.026 | 0.083 | 0 | 0 | 0 |
| EW Mean | 1.764 | 0.022 | 0.165 | 0.076 | 0.045 | 0.250 | 0.125 | 0.375 |
| Tied-\$ - Tied-other <i>t</i> -test for diff. [<i>p</i> -value] | 0.332 [0.642] | 0.075** [0.021] | 0.113 [0.292] | 0.151*** [0.009] | 0.075 [0.176] | 0.283 [0.209] | 0.008 [0.957] | 0.292 [0.195] |

Table IA.1.2 (continued)*Panel C: Proxies for institutional structures and macro-economic conditions*

| Country | Economic Freedom (EFW) (13) | Legal Origin (LEGALO) (14) | Investor Protection (SHRIGHTS) (15) | M&A Volume (MAVOL) (16) | X-Border M&A Freq. (MAFREQ) (17) | GDP Growth (GDPCHG) (18) |
|---|-----------------------------------|----------------------------------|---|-------------------------------|--|--------------------------------|
| <i>Tied-\$</i> | | | | | | |
| Mexico | 6.32 | French | 0 | 0.014 | 0.039 | 0.044 |
| Thailand | 7.19 | English | 0 | 0.018 | 0.035 | -0.014 |
| Philippines | 7.22 | French | 1 | 0.052 | 0.018 | 0.052 |
| Malaysia | 7.43 | English | 1 | 0.193 | 0.007 | 0.073 |
| Indonesia | 6.57 | French | 0 | 0.027 | 0.039 | 0.047 |
| South Korea | 6.42 | German | 0 | 0.014 | 0.004 | 0.047 |
| Russia | 4.93 | Others | 1 | 0.027 | 0.013 | -0.053 |
| Brazil | 5.99 | French | 1 | 0.035 | 0.061 | 0.003 |
| Ecuador | 5.69 | French | 0 | 0.028 | 0.000 | -0.063 |
| Chile | 7.28 | French | 1 | 0.261 | 0.056 | -0.008 |
| Colombia | 5.28 | French | 1 | 0.005 | 0.028 | -0.042 |
| Turkey | 5.18 | French | 0 | 0.011 | 0.032 | -0.057 |
| Argentina | 5.96 | French | 1 | 0.043 | 0.060 | -0.109 |
| Venezuela | 4.44 | French | 0 | 0.002 | 0.017 | -0.089 |
| Uruguay | 6.83 | French | 0 | 0.007 | 0.000 | -0.110 |
| EW Mean | 6.182 | | 0.467 | 0.049 | 0.027 | -0.019 |
| <i>Tied-other</i> | | | | | | |
| Finland | 7.37 | Scandinavian | 1 | 0.027 | 0.033 | -0.038 |
| UK | 7.83 | English | 1 | 0.055 | 0.035 | 0.001 |
| Italy | 6.57 | French | 0 | 0.019 | 0.083 | 0.036 |
| Sweden | 6.93 | Scandinavian | 1 | 0.060 | 0.083 | -0.012 |
| Norway | 7.25 | Scandinavian | 1 | 0.036 | 0.087 | 0.035 |
| Czech Republic | 5.81 | Other | 1 | 0.019 | 0.047 | -0.007 |
| Slovak Republic | 6.16 | Other | 0 | 0.005 | 0.000 | 0.044 |
| Poland | 6.19 | Other | 1 | 0.053 | 0.262 | 0.043 |
| EW Mean | 6.764 | | 0.750 | 0.034 | 0.079 | 0.013 |
| Tied-\$ - Tied-other | -0.582 | | -0.283 | 0.015 | -0.052** | -0.031 |
| <i>t</i> -test for diff. [<i>p</i> -value] | [0.139] | | [0.209] | [0.588] | [0.027] | [0.195] |

IA.2 Omitted Correlated variables

This analysis addresses the concern that the difference between the TIED\$ and TIED-OTHER coefficient estimates is due to a systematic difference in the magnitudes of the crises in the tied-\$ and tied-other countries that is not captured by the control variables included in the models. We expect differences in crisis magnitude to be the most serious potential identification issue. We replace the TIED\$ and TIED-OTHER indicator variables with three indicators for crisis magnitude: BIG, MEDIUM, and SMALL. These indicators are based on dividing the 23 crisis countries into approximate terciles by ranking each country's actual change in currency risk, defined as the change in variance in the country's US\$ exchange rate between the last six months of the fixed neutral period to the first six months of the floating neutral period. Table IA.2.1 Panel A reports the classifications for each crisis. Table IA.2.1 Panel B reports results for estimation of the models described in Table 3 Panel B using the full model for the all-countries-sample and separately for the tied-\$-countries sub-sample. We cannot conduct this test with the tied-other countries subsample because we do not have enough observations for the Big-Medium-Small indicator variables across the tied-other countries. For three out of the four specifications, the difference is positive and significant. Thus, even for the tied-\$ countries where the changes in currency risk are the greatest, the abnormal return in reaction to the regime shift is positively associated with magnitude of the change in currency risk.

Table IA.2.1 Event study of conditional absolute size-adjusted returns around regime shift announcement date
Panel A: Tercile Ranking of Changes in Currency Risk

| Country | All Countries | Tied-\$ Countries | Tied-other Countries |
|-------------|---------------|-------------------|----------------------|
| Finland | Small | | Big |
| UK | Small | | Medium |
| Italy | Small | | Small |
| Sweden | Small | | Small |
| Norway | Small | | Small |
| Mexico | Medium | Medium | |
| Czech Rep. | Medium | | Big |
| Thailand | Big | Big | |
| Philippines | Big | | |
| Malaysia | Big | Big | |
| Indonesia | Big | Big | |
| South Korea | Medium | Small | |
| Russia | Medium | Medium | |
| Slovak Rep. | Medium | | Big |
| Brazil | Medium | Small | |
| Ecuador | Big | Big | |
| Chile | Small | Small | |
| Colombia | Small | Small | |
| Poland | Small | | Medium |
| Turkey | Big | Medium | |
| Argentina | Big | Medium | |
| Venezuela | Big | Big | |
| Uruguay | Medium | Small | |

Panel B: Table 3 Panel B with Big/Medium/Small indicators (Full model)

| <i>Dependent Variable:</i> | SHORT WINDOW AR | | LONG WINDOW AR | |
|--|------------------|-------------------|-----------------|-------------------|
| | (1) | (2) | (3) | (4) |
| <i>Sample:</i> | All Countries | Tied-\$ Countries | All Countries | Tied-\$ Countries |
| Big Δ CURRISK | 0.0434*** | -0.0165 | 0.0032*** | 0.0058* |
| Medium Δ CURRISK | 0.0439*** | -0.0243 | 0.0017 | 0.0115* |
| Small Δ CURRISK | 0.0354*** | -0.0128 | 0.0015 | 0.0041 |
| Big – Small | 0.0080** | -0.0038 | 0.0016*** | 0.0017** |
| F-test for difference across coefficients [<i>p</i> -value] | [0.013] | [0.537] | [0.000] | [0.034] |
| Control variables | | | | |
| Δ event probability | Included | Included | – | – |
| Concurrent events | Included | Included | Included | Included |
| Country institutions | Included | Included | Included | Included |
| Firm characteristics | Included | Included | Included | Included |
| N | 1,314 | 913 | 1,262 | 861 |

IA.3 Tabulation of untabulated control variable coefficient estimates in Table 3 Panel B

| <i>Dependent Variable:</i> | SHORT WINDOW AR | | LONG WINDOW AR | |
|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | (1) | (2) | (3) | (4) |
| <i>Model:</i> | PARSIMONIOUS | FULL | PARSIMONIOUS | FULL |
| TIED-\$ | 0.0234*** (10.12) | 0.0530*** (4.41) | 0.0026*** (14.43) | 0.0030*** (2.64) |
| TIED-OTHER | 0.0209*** (12.23) | 0.0534*** (4.06) | 0.0021*** (15.76) | 0.0027** (2.18) |
| EXPECT_NEWS | 0.0025** (2.03) | 0.0049*** (2.97) | | |
| EXPECT_REGION | -0.0073*** (-5.38) | -0.0094*** (-2.93) | | |
| EXPECT_ΔRES | 0.0019 (1.27) | 0.0060** (2.53) | | |
| DEVALUE_P2M | -0.0041** (-2.40) | -0.0077** (-2.44) | | |
| LOCALRET1 | -0.0009 (-1.42) | -0.0016* (-1.86) | | |
| CURRΔ1 | 0.0092 (0.68) | 0.0486** (1.97) | | |
| LOCALRETFULL | | | -0.0013*** (-5.52) | -0.0003 (-1.13) |
| CURRΔFULL | | | -0.0009* (-1.92) | 0.0005 (0.58) |
| CONCANNCS | | -0.0038* (-1.87) | | -0.0004 (-1.59) |
| INFL | | -0.0003* (-1.90) | | 0.0000*** (3.23) |
| EFW | | -0.0040** (-2.56) | | 0.0000 (0.03) |
| LEGALO-ENG | | 0.0088*** (3.08) | | 0.0001 (0.21) |
| LEGALO-FR | | 0.0073** (2.13) | | 0.0002 (0.80) |
| LEGALO-GER | | 0.0106** (2.27) | | -0.0002 (-0.32) |
| SHRIGHTS | | 0.0030 (1.43) | | 0.0007*** (3.75) |
| MAVOL | | 0.0031 (0.17) | | -0.0022 (-1.45) |
| MAFREQ | | 0.0491*** (2.79) | | -0.0041*** (-2.72) |
| GDPCHG | | -0.0095 (-0.49) | | 0.0092*** (4.04) |
| SIZE | | -0.0016*** (-2.64) | | -0.0001*** (-2.61) |
| MTB | | -0.0001** (-2.39) | | -0.0000*** (-3.28) |

| | | | | |
|---|---------|---------|-----------|----------|
| GROWTH | | -0.0046 | | 0.0006 |
| | | (-0.50) | | (1.54) |
| LEV | | -0.0070 | | 0.0005 |
| | | (-1.04) | | (0.91) |
| CF | | 0.0195 | | 0.0009 |
| | | (0.76) | | (0.37) |
| RD | | 0.0205 | | 0.0041** |
| | | (1.16) | | (2.59) |
| FSALE | | 0.0025 | | -0.0007* |
| | | (0.41) | | (-1.94) |
| DERIVSUSE | | 0.0014 | | -0.0001 |
| | | (0.33) | | (-0.48) |
| GEOSEG | | 0.0004 | | 0.0000 |
| | | (1.17) | | (0.71) |
| Tied-\$ - Tied-other | 0.0025 | -0.0004 | 0.0005*** | 0.0003 |
| F-test for difference across coefficients [<i>p</i> -value] | [0.149] | [0.893] | [0.001] | [0.167] |
| N | 1,314 | 1,314 | 1,262 | 1,262 |
| Adjusted R ² | 34.9% | 37.7% | 49.6% | 54.3% |

IA.4 *Alternative samples: Separating out the importers versus the exporters*

Some prior papers have tried to separately analyze exposure for importers and exporters or, more generally, for firms with net positive or negative exposures. Pantzalis, Simkins, and Laux (2001) and Wei and Starks (2013), for example, separate their samples into firms with positive or negative exposure estimates. These analyses control for any systematic differences in exposures between the two sets of firms and also allow you to use the actual exposure estimates in the cross-sectional regressions rather than the absolute values. However, reliable information on firm-level imports and exports is not available.

We use two methods that rely on the data to categorize whether a firm is a net importer or net exporter to the crisis country. First, we run a regression of daily firm returns on foreign exchange returns and market returns during the float neutral period. A positive (negative) coefficient on the foreign exchange returns indicates a positive (negative) return on a stronger (weaker) U.S. dollar, which implies the U.S. firm is a net importer from (exporter to) the foreign country. Second, we examine the firm's event day returns to extreme foreign currency movements during the float neutral period. We define extreme movements as daily fluctuation above or below two standard deviations of the mean. When the foreign currency fluctuation is above the mean, a positive (negative) event day return implies that the firm is a net importer from (exporter to) the crisis country. The interpretation reverses when the daily fluctuation is below the mean. We identify only 266 (267) observations where both methods provide a consistent categorization that the firm is either a net importer from or an exporter to the crisis country. This sample size does not provide enough observations to conduct our DID analysis on the two sub-sets.

The implications for our setting are clearer for the exporters. Both sets of firms should have negative effects from the increase in currency risk and similar negative effects from the crisis-related disruptions to the local economy. But, the local currency depreciation that typically accompanies a currency crisis would be good news for the importers and bad news for the exporters. With all effects negative for the exporters, our hypothesis is that the exporters' abnormal returns should be lower (more negative) for the tied-\$ countries than the tied-other countries. When we fit our Table 3 Panel B specifications on just the exporters, with the actual abnormal return as opposed to the absolute value of the abnormal return, the tied-\$ indicator is smaller than the tied-other indicator for all of the short window specifications, and the long window full specification (#4), but only significant in the short window parsimonious specification (#1).

| <i>Dependent Variable:</i> | SHORT WINDOW AR | | LONG WINDOW AR | |
|--|-----------------|---------|----------------|---------|
| | (1) | (2) | (3) | (4) |
| <i>Model:</i> | PARSIMONIOUS | FULL | PARSIMONIOUS | FULL |
| IA.4.1 Alternative sample: exporters only (n=267) | | | | |
| Tied-\$ | 0.0007 | -0.0319 | 0.0001 | 0.0009 |
| Tied-other | 0.0085** | -0.0209 | -0.0001 | 0.0010 |
| Tied-\$ - Tied-other | -0.0078** | -0.0110 | 0.0002 | -0.0001 |
| F-test for diff. [<i>p</i> -value] | [0.029] | [0.155] | [0.731] | [0.886] |

IA.5 Alternative return variable specifications

We show Table 3 Panel B from the manuscript for convenient comparison of the alternative specifications. The intercepts presented in Table 3 Panel B are from models of the absolute value of size-adjusted abnormal returns around the regime shift announcement date and using the specifications of the control variables described in Table 3 Panel A.

| <i>Dependent Variable:</i> | SHORT WINDOW AR | | LONG WINDOW AR | |
|----------------------------|------------------|------|-----------------|------|
| | (1) | (2) | (3) | (4) |
| <i>Model:</i> | PARSIMONIOUS | FULL | PARSIMONIOUS | FULL |

Table 3 Panel B

| | | | | |
|-------------------------------------|-----------|-----------|-----------|-----------|
| Tied-\$ | 0.0234*** | 0.0530*** | 0.0026*** | 0.0030*** |
| Tied-other | 0.0209*** | 0.0534*** | 0.0021*** | 0.0027** |
| Tied-\$ - Tied-other | 0.0025 | -0.0004 | 0.0005*** | 0.0003 |
| F-test for diff. [<i>p</i> -value] | [0.149] | [0.893] | [0.001] | [0.167] |

IA.5.1 Alternative specification: AR = square root of abnormal returns

| | | | | |
|-------------------------------------|-----------|-----------|-----------|-----------|
| Tied-\$ | 0.1376*** | 0.2376*** | 0.0463*** | 0.0549*** |
| Tied-other | 0.1313*** | 0.2427*** | 0.0419*** | 0.0527** |
| Tied-\$ - Tied-other | 0.0063 | -0.0051 | 0.0044*** | 0.0021 |
| F-test for diff. [<i>p</i> -value] | [0.212] | [0.583] | [0.004] | [0.322] |

IA.5.2 Alternative specification: AR = non-normalized abnormal returns

| | | | | |
|-------------------------------------|--|--|-----------|-----------|
| Tied-\$ | | | 0.1150*** | 0.3552*** |
| Tied-other | | | 0.0989*** | 0.3194*** |
| Tied-\$ - Tied-other | | | 0.0161 | 0.0357*** |
| F-test for diff. [<i>p</i> -value] | | | [0.105] | [0.004] |

IA.5.3 Alternative specification: AR = DW normalized abnormal returns

| | | | | |
|-------------------------------------|--|--|-----------|-----------|
| Tied-\$ | | | 0.7531*** | 0.8688*** |
| Tied-other | | | 0.6389*** | 0.7373*** |
| Tied-\$ - Tied-other | | | 0.1142** | 0.1315** |
| F-test for diff. [<i>p</i> -value] | | | [0.022] | [0.020] |

IA.6 *Alternative control variable specifications*

We show Table 3 Panel B from the manuscript for convenient comparison of the alternative control variable specifications. The intercepts presented in Table 3 Panel B are from models of the absolute value of size-adjusted abnormal returns around the regime shift announcement date and using the specifications of the control variables described in Table 3 Panel B.

- IA.6.1 Includes controls for changes in expectations of the probability of a regime shift ($\Delta\text{PROB}_{\text{RS}}$) in the long window tests.
- IA.6.2 Instead of the reserve change variables, we use an indicator variable = 1 if the anticipation period is greater than two months.
- IA.6.3 Instead of measuring devaluation in the two months prior to the regime shift announcement date, we use an indicator variable = 1 if there was at least one devaluation in the year prior to the announcement date.
- IA.6.4 We use normalized measures of *LOCALRETFULL* and *CURRAFULL* for the long window tests. Whether we should normalize *LOCALRETFULL* and *CURRAFULL* to daily values using the number of days in the anticipation period as we do with the abnormal returns is an empirical estimation issue. On the one hand, normalizing the variables puts them into the same “units” as the dependent variable. On the other hand, these variables are intended to proxy for the magnitude of crisis-related events and normalizing them by the length of the anticipation period could diffuse their magnitude. Here we present results using normalized values. They do not differ materially from the non-normalized values reported in the paper.
- IA.6.5 We use separate identification of concurrent events (*ANNC_PERS* and *ANNC_REFS*) in place of the *CONCANNCS* summary variable.
- IA.6.6 We use an indicator variable = 1 for countries with $\text{INFL} > 40\%$, which is the cutoff used by Bruno and Easterly (1998) to define moderately high inflation as a warning of a crisis, although their designation was for “two years running,” whereas ours is for just the one year prior to the regime shift.

| Dependent Variable: | SHORT WINDOW AR | | LONG WINDOW AR | |
|--|------------------|-----------|-----------------|-----------|
| Model: | PARSIMONIOUS | FULL | PARSIMONIOUS | FULL |
| Table 3 Panel B | | | | |
| Tied-\$ | 0.0234*** | 0.0530*** | 0.0026*** | 0.0030*** |
| Tied-other | 0.0209*** | 0.0534*** | 0.0021*** | 0.0027** |
| Tied-\$ - Tied-other | 0.0025 | -0.0004 | 0.0005*** | 0.0003 |
| F-test for diff. [<i>p</i> -value] | [0.149] | [0.893] | [0.001] | [0.167] |
| IA.6.1 Alternative specification: including controls for $\Delta\text{PROB}_{\text{RS}}$ | | | | |
| Tied-\$ | | | 0.0029*** | -0.0001 |
| Tied-other | | | 0.0022*** | -0.0019 |
| Tied-\$ - Tied-other | | | 0.0007*** | 0.0019*** |
| F-test for diff. [<i>p</i> -value] | | | [0.000] | [0.001] |
| IA.6.2 Alternative control: EXPECT_ΔRES = indicator variable if the anticipation period is > two months | | | | |
| Tied-\$ | 0.0214*** | 0.0458*** | | |
| Tied-other | 0.0183*** | 0.0440*** | | |
| Tied-\$ - Tied-other | 0.0030* | 0.0017 | | |
| F-test for diff. [<i>p</i> -value] | [0.087] | [0.528] | | |
| IA.6.3 Alternative control: DEVALUE_P2M = indicator variable if any devaluation in the prior year | | | | |
| Tied-\$ | 0.0240*** | 0.0516*** | | |
| Tied-other | 0.0216*** | 0.0503*** | | |
| Tied-\$ - Tied-other | 0.0024 | 0.0012 | | |
| F-test for diff. [<i>p</i> -value] | [0.179] | [0.644] | | |
| IA.6.4 Alternative control: normalized LOCALRETFULL and CURRAFULL | | | | |
| Tied-\$ | | | 0.0016*** | 0.0023** |
| Tied-other | | | 0.0017*** | 0.0023* |
| Tied-\$ - Tied-other | | | -0.0001 | 0.0000 |
| F-test for diff. [<i>p</i> -value] | | | [0.364] | [0.761] |
| IA.6.5 Alternative control: separate identification of concurrent events (ANNC_PERS and ANNC_REFS) | | | | |
| Tied-\$ | | 0.0584*** | | 0.0034*** |
| Tied-other | | 0.0574*** | | 0.0027** |
| Tied-\$ - Tied-other | | 0.0010 | | 0.0007** |
| F-test for diff. [<i>p</i> -value] | | [0.745] | | [0.014] |
| IA.6.6 Alternative control: INFL = indicator variable if INFL > 40% | | | | |
| Tied-\$ | | 0.0554*** | | 0.0045*** |
| Tied-other | | 0.0559*** | | 0.0043*** |
| Tied-\$ - Tied-other | | -0.0005 | | 0.0002 |
| F-test for diff. [<i>p</i> -value] | | [0.846] | | [0.410] |

IA.7 Creating the Entry dummy variable for the cross-border investment tests

The logit model is estimated over the 3,873 observations in column (3) of Table 6 that represent the firms that do not report a subsidiary in the country prior to the last fixed regime year, based on the Exhibit 21 filed in the year preceding month -9 relative to the crisis month.¹ We set *ENTRY* equal to one for the 174 observations that report a subsidiary in the Exhibit 21 between month -9 and +3 relative to the crisis month, indicating that the firm entered the country (column 4). We set *ENTRY* equal to zero for the remaining 3,699 observations that still do not report a subsidiary in the crisis country as of the last year of the fixed regime. Because each firm can enter eqn. (3) multiple times, we cluster the standard errors by firm.

We next estimate eqn. (3) in the floating rate period, defined as 3 months to 15 months after the regime shift. The logit model is estimated over the 3,799 observations in Table 6 column (5) that do not report a subsidiary in the crisis country at the beginning of the floating rate regime. The procedure we use to identify entry is the same as the procedure used in the fixed regime. We set *ENTRY* equal to one for the 190 observations in column (6) that report a subsidiary in the post-regime-shift Exhibit 21, indicating that they entered the country in the year following the shift. We set *ENTRY* equal to zero for the 3,609 observations that do not add a subsidiary. Of the 3,799 observations, 2,754 (72.5%) are in tied-\$ countries; 132 of the 190 entrants (69.5%) are in tied-\$ countries. The firm-specific variables in this analysis are measured as of the first 10-K filing date in the floating rate regime, and the country characteristics are measured as of the first full post crisis calendar year.

Table IA.7.1 describes the composition of samples for the logit tests for entry propensity. The sample consists of US MNCs with Exhibit 21 data available in the fixed rate regime and floating rate regime around a crisis. The 10-K associated with the last year of the fixed regime is the one filed 9 months prior to 3 months after a country's currency regime shift. The 10-K associated with the floating regime is the one filed 3 months to 15 months after a country's currency regime shift. US MNCs are those that announce an acquisition of a firm in at least one of the regime shift countries in the three calendar years before or two calendar years after a regime shift, as reported in SDC. The table presents the number of observations for which sample firm *i* lists owning a subsidiary in country *j* in the Exhibit 21 of its annual 10-K filing.

¹ With full information, we would have 687 observations for each crisis country. Missing data occur because the sample of US MNCs is derived throughout the period from 1990 (two years before the earliest crisis) to 2003 (one year after the latest crisis). Firms identified as acquirers around early (late) crises may not exist as of later (earlier) crises. In addition, 10-K filings prior to the SEC electronic filing system instituted in 1994 are frequently missing.

Table IA.7.1 Firm observations used in cross-border investment tests

| Country | Total (1) | % (2) | Has no subsidiary prior to last year of the fixed regime (3) | Subsidiary enters in last year of the fixed regime (4) | Has no subsidiary at the start of floating regime (5) | Subsidiary enters in floating regime (6) |
|-----------------|--------------|---------------|---|--|--|--|
| Argentina | 229 | <i>4.7%</i> | 146 | 5 | 145 | 7 |
| Brazil | 249 | <i>5.1%</i> | 136 | 16 | 129 | 14 |
| Chile | 258 | <i>5.3%</i> | 209 | 5 | 211 | 7 |
| Colombia | 258 | <i>5.3%</i> | 217 | 8 | 217 | 9 |
| Czech Republic | 193 | <i>4.0%</i> | 180 | 5 | 178 | 16 |
| Ecuador | 250 | <i>5.2%</i> | 229 | 3 | 232 | 4 |
| Finland | 130 | <i>2.7%</i> | 108 | 1 | 111 | 5 |
| Indonesia | 212 | <i>4.4%</i> | 188 | 4 | 186 | 10 |
| Italy | 130 | <i>2.7%</i> | 70 | 5 | 69 | 2 |
| Malaysia | 212 | <i>4.4%</i> | 176 | 7 | 173 | 21 |
| Mexico | 179 | <i>3.7%</i> | 99 | 16 | 87 | 9 |
| Norway | 139 | <i>2.9%</i> | 110 | 4 | 107 | 1 |
| Philippines | 210 | <i>4.3%</i> | 182 | 8 | 178 | 13 |
| Poland | 243 | <i>5.0%</i> | 203 | 7 | 204 | 19 |
| Russia | 265 | <i>5.5%</i> | 235 | 13 | 228 | 7 |
| Slovak Republic | 247 | <i>5.1%</i> | 240 | 6 | 236 | 8 |
| South Korea | 269 | <i>5.5%</i> | 224 | 17 | 210 | 1 |
| Sweden | 141 | <i>2.9%</i> | 109 | 6 | 104 | 4 |
| Thailand | 210 | <i>4.3%</i> | 178 | 12 | 170 | 19 |
| Turkey | 230 | <i>4.7%</i> | 212 | 14 | 200 | 2 |
| United Kingdom | 130 | <i>2.7%</i> | 34 | 7 | 36 | 3 |
| Uruguay | 241 | <i>5.0%</i> | 214 | 2 | 215 | 5 |
| Venezuela | 229 | <i>4.7%</i> | 174 | 3 | 173 | 4 |
| Total | 4,854 | <i>100.0%</i> | 3,873 | 174 | 3,799 | 190 |

IA.8 Tabulation of untabulated control variable coefficient estimates in Table 6

| | (1) FIXED Neutral | (2) FLOATING Neutral |
|-------------|-------------------------|----------------------------|
| TIED-\$ | -0.016 (-0.29) | 0.023 (0.27) |
| TIED-OTHER | -0.007 (-0.13) | 0.031 (0.35) |
| EXPOSED | 0.000 (0.02) | -0.006 (-0.75) |
| SIZE | -0.002 (-0.82) | -0.006* (-1.88) |
| MTB | 0.002 (0.96) | -0.001 (-0.67) |
| GROWTH | 0.000** (2.59) | -0.001 (-0.98) |
| LEV | 0.101 (1.46) | 0.031 (0.45) |
| LEV2 | -0.061 (-0.57) | -0.005 (-0.05) |
| CF | -0.107 (-1.29) | 0.083* (1.66) |
| RD | -0.003 (-0.12) | -0.089*** (-2.67) |
| DERIVSUSE | -0.002 (-0.22) | 0.021** (2.04) |
| SINGLE | -0.002 (-0.20) | 0.011 (1.29) |
| 100PERC | 0.011 (1.37) | 0.003 (0.34) |
| COMPETE | - - | 0.028 (1.36) |
| DISTINCT | 0.015* (1.87) | 0.004 (0.59) |
| HOSTILE | -0.003 (-0.13) | -0.039 (-1.47) |
| INVOPP | 0.000 (0.07) | 0.016 (1.38) |
| ORG_JV | -0.021 (-0.99) | 0.016 (0.68) |
| ORG_PRIVATE | 0.005 (0.27) | 0.006 (0.26) |
| ORG_PUBLIC | 0.023 (1.32) | 0.013 (0.58) |
| ORG_SUB | -0.011 (-0.57) | -0.000 (-0.01) |
| RELSIZE | 0.025 (0.62) | 0.025*** (5.69) |

| | | |
|-------------------------|---------------------|-------------------|
| TENDER | -0.008 (-0.40) | 0.012 (0.67) |
| TOEHOLD | -0.001 (-0.08) | 0.008 (0.78) |
| EFW | -0.002 (-0.33) | -0.008 (-0.65) |
| LEGALO-ENG | 0.011 (0.71) | 0.021 (0.89) |
| LEGALO-FR | 0.024 (1.01) | -0.001 (-0.04) |
| LEGALO-GER | 0.002 (0.04) | 0.025 (0.61) |
| SHRIGHTS | -0.003 (-0.15) | -0.002 (-0.11) |
| MAVOL | 0.237* (1.75) | 0.185 (1.15) |
| MAFREQ | -0.256** (-2.49) | 0.346 (1.49) |
| GDPCHG | 0.112 (0.68) | 0.030 (0.28) |
| N | 253 | 343 |
| Adjusted R ² | 16.5% | 15.5% |

IA.9 Two alternative partitions for Table 7

We show two additional cross-sectional difference-in-differences estimates using alternative partitions to those presented in Table 7. Panels A and B present results partitioning firms based on firm size (SIZE). Panels C and D present results partitioning firms based on the proportion of foreign sales (FSALE).

| Panel A: Big vs. small firms (Tied-\$) | | | | | | Panel C: High vs. low foreign/total sales firms (Tied-\$) | | | | | |
|---|------------|-------------------------|----------------------------|-------------------------|---|--|--|-------------------------|----------------------------|-------------------------|---|
| | | FIXED Neutral (a) | FLOATING Neutral (b) | Difference (a) - (b) | χ^2 -test for diff. across coefficients [p-value] | | | FIXED Neutral (a) | FLOATING Neutral (b) | Difference (a) - (b) | χ^2 -test for diff. across coefficients [p-value] |
| Small | (i) | 0.019 <i>n</i> = 73 | 0.017 <i>n</i> = 49 | 0.002 | [0.984] | High | | -0.027 <i>n</i> = 55 | -0.035 <i>n</i> = 62 | 0.008 | [0.941] |
| Big | (ii) | 0.027 <i>n</i> = 56 | 0.007 <i>n</i> = 74 | 0.020 | [0.853] | Low | | -0.010 <i>n</i> = 62 | -0.043 <i>n</i> = 56 | 0.033 | [0.770] |
| Difference | (i) - (ii) | -0.008 | 0.009 | -0.018 | [0.399] | | | -0.017 | 0.008 | -0.025 | [0.193] |
| F-test for diff. across coefficients [p-value] | | [0.515] | [0.624] | | | | | [0.181] | [0.624] | | |
| Panel B: Big vs. small firms (Tied-other) | | | | | | Panel D: High vs. low foreign/total sales firms (Tied-other) | | | | | |
| | | FIXED Neutral (a) | FLOATING Neutral (b) | Difference (a) - (b) | χ^2 -test for diff. across coefficients [p-value] | | | FIXED Neutral (a) | FLOATING Neutral (b) | Difference (a) - (b) | χ^2 -test for diff. across coefficients [p-value] |
| Small | (i) | 0.010 <i>n</i> = 55 | 0.028 <i>n</i> = 118 | -0.018 | [0.853] | High | | -0.014 <i>n</i> = 50 | -0.043 <i>n</i> = 118 | 0.029 | [0.798] |
| Big | (ii) | 0.052 <i>n</i> = 69 | 0.015 <i>n</i> = 112 | 0.037 | [0.728] | Low | | -0.015 <i>n</i> = 67 | -0.044 <i>n</i> = 93 | 0.029 | [0.802] |
| Difference | (i) - (ii) | -0.043** | 0.013 | -0.055** | [0.012] | | | 0.001 | 0.001 | 0.000 | [0.978] |
| F-test for diff. across coefficients [p-value] | | [0.017] | [0.414] | | | | | [0.930] | [0.933] | | |
| Comparing diff-in-diffs Tied-\$ - Tied-other | | | | 0.037 | [0.119] | | | | | -0.025 | [0.277] |

IA.10 Robustness for acquisition announcement date return tests

IA.10.1 Alternative definitions of fixed and floating periods

The first alternative model combines observations in the fixed neutral period and the anticipation periods, considering all to be fixed rate regime acquisitions, and combines observations in the floating neutral and the stabilization periods, considering all to be floating regime acquisitions. The second model further includes all announcements. The coefficient estimates in Table 6 are not significantly affected by the alternative specifications.

| | (1) FIXED Neutral | (2) FLOATING Neutral | Difference (1) – (2) | χ^2 -test [p-value] |
|---|-------------------------|----------------------------|-------------------------|-----------------------------|
| Table 6 Use only fixed neutral period and floating neutral period | | | | |
| Tied-\$ | -0.016 | 0.023 | -0.039 | [0.683] |
| Tied-other | -0.007 | 0.031 | -0.038 | [0.699] |
| Tied-\$ - Tied-other | -0.009 | -0.007 | -0.002 | [0.923] |
| F-test for diff. across coefficients [p-value] | [0.625] | [0.670] | | |
| IA.10.1.1 Combine anticipation period with fixed neutral period and stabilization period with floating neutral | | | | |
| Tied-\$ | 0.004 | 0.042 | -0.038 | [0.692] |
| Tied-other | 0.011 | 0.042 | -0.031 | [0.737] |
| Tied-\$ - Tied-other | -0.006 | -0.000 | -0.006 | [0.793] |
| F-test for diff. across coefficients [p-value] | [0.720] | [0.976] | | |
| IA.10.1.2 Include all announcements | | | | |
| Tied-\$ | 0.002 | 0.036 | -0.034 | [0.696] |
| Tied-other | 0.008 | 0.043 | -0.035 | [0.697] |
| Tied-\$ - Tied-other | -0.006 | -0.007 | -0.000 | [0.999] |
| F-test for diff. across coefficients [p-value] | [0.635] | [0.661] | | |

IA.10.2 Sub-sample of acquisitions into follower countries

We repeat the analysis for the returns associated with the acquisitions into follower countries, expecting the results to be weaker than those reported in Table 6. We cannot conduct the analysis separately on leader countries because Finland, which has only 18 deals in total and three in the fixed neutral period, is the only leader country with a tied-other currency in the fixed regime.

| | (1) FIXED Neutral | (2) FLOATING Neutral | Difference (1) – (2) | χ^2 -test [<i>p</i> -value] |
|---|-------------------------|----------------------------|-------------------------|--------------------------------------|
| <i>Table 6 All countries</i> | | | | |
| Tied-\$ | -0.016 | 0.023 | -0.039 | [0.683] |
| Tied-other | -0.007 | 0.031 | -0.038 | [0.699] |
| Tied-\$ - Tied-other | -0.009 | -0.007 | -0.002 | [0.923] |
| F-test for diff. across coefficients [<i>p</i> -value] | [0.625] | [0.670] | | |
| <i>IA.10.2 Followers countries only</i> | | | | |
| Tied-\$ | -0.058 | 0.026 | -0.084 | [0.448] |
| Tied-other | -0.094 | 0.000 | -0.094 | [0.408] |
| Tied-\$ - Tied-other | 0.037 | 0.025 | 0.011 | [0.640] |
| F-test for diff. across coefficients [<i>p</i> -value] | [0.057] | [0.179] | | |