# ONLINE APPENDIX

## The Transmission of Economic Shocks in Multi-Divisional Organizations: An Empirical Analysis of the Global Retail Industry

The Online Appendix is organized into five sections. First, Appendix A reports additional descriptive data. Second, Appendix B provides tables showing results of the robustness checks and additional analyses reported in the paper. Third, Appendix C presents figures depicting the marginal effects reported in the main analysis of the paper (see Table 2). Fourth, Appendix D provides an additional difference-in-differences analysis. Fifth, Appendix E provides a summary of the variables used in the analysis and their data sources.

## Appendix A. Descriptive Statistics

**Table A1.** Descriptive Statistics of Five Largest Retailers in the Sample

| Retail MNE (parent firm) | Home country | Examples of retail chains (banners) | Total sales (in billion EUR) | # Host (foreign) countries | Host country sales[1] | Five largest host countries[1] |
|---|---|---|---|---|---|---|
| Walmart | USA | Walmart, Walmart Neighborhood Market, Sam's Club, Asda | 337.5 | 15 | 27.5% | UK (7.4%), Mexico (5.5%), Canada (4.6%), Brazil (2.8%), and Japan (2.6%) |
| Carrefour | France | Carrefour, Carrefour Express, Carrefour Market, Hyperstar | 112.1 | 38 | 58.5% | Spain (12.7%), Brazil (11.1%), Italy (6.3%), China (4.3%), and Belgium (4.3%) |
| Tesco | UK | Tesco, Tesco Express, Tesco Homeplus, Kipa | 78.8 | 13 | 32.7% | South Korea (8.1%), Thailand (4.4%), Ireland (4.0%), Poland (3.5%), and Hungary (2.9%) |
| Metro Group | Germany | Metro/Makro, Media Markt, Real, Galeria Kaufhof | 77.1 | 33 | 61.3% | Italy (6.6%), France (6.5%), Russia (6.4%), Poland (6.3%), and Spain (4.6%) |
| AEON | Japan | AEON, Laura Ashley, MaxValu, The Body Shop | 72.3 | 8 | 3.7% | China (1.5%), Malaysia (1.0%), South Korea (0.7%), Thailand (0.5%), and Taiwan (0.02%) |

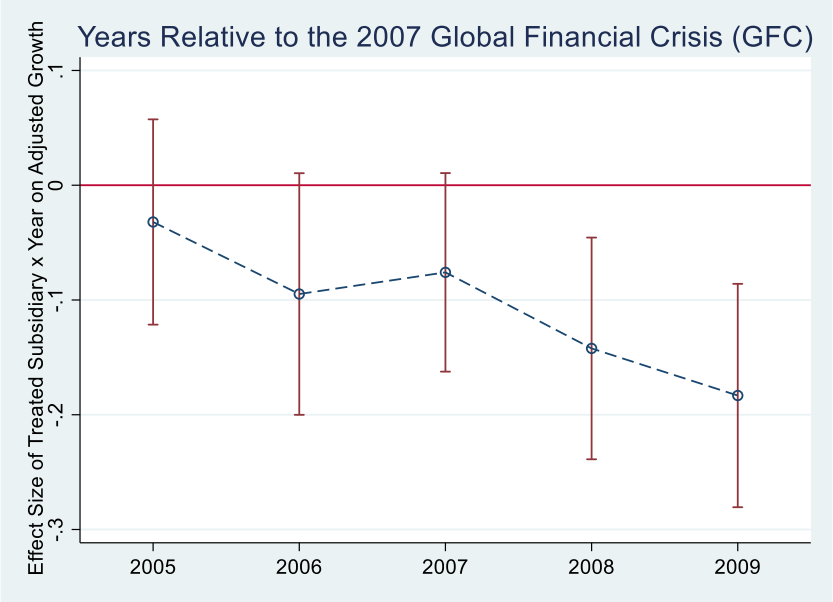
*Note*. This table provides information of the year 2010 for the five largest retailers in the sample (source: Edge Retail Insight, own calculations). [1] In % of total sales.

**Table A2.** Host Countries with High vs. Low Market-Adjusted Store Growth of Foreign Subsidiaries

| **Host country** | ***N*** | **Mean** | **SD** |
|---|---|---|---|
| *Highest market-adjusted store growth* | | | |
| Mongolia | 3 | 0.605 | 1.164 |
| Finland | 35 | 0.382 | 2.011 |
| Bosnia and Herzegovina | 6 | 0.280 | 0.437 |
| Turkey | 196 | 0.259 | 0.983 |
| Fiji | 3 | 0.217 | 0.293 |
| *Lowest market-adjusted store growth* | | | |
| Bulgaria | 22 | -0.182 | 0.222 |
| Estonia | 70 | -0.181 | 0.215 |
| Lithuania | 60 | -0.169 | 0.304 |
| Uruguay | 32 | -0.143 | 0.090 |
| Latvia | 58 | -0.141 | 0.370 |

*Note.* The table reports descriptive statistics for the five host countries with at least 3 observations and the highest vs. lowest mean values of the *Market-adjusted store growth* variable, respectively. *Market-adjusted store growth* is computed by subtracting the mean store growth of domestic retail chains that operate exclusively in a given geography from the store growth of a foreign subsidiary, where store growth is the percentage change in a retail chain's number of stores in the given country from the current year $t$ to the next year $t + 1$ (i.e., $[\#Stores_{t+1} / \#Stores_t] - 1$).

**Figure A1**. Time Evolution of Market-Adjusted Store Growth of Foreign Subsidiaries Before and During the 2007 Global Financial Crisis (GFC)




*Note*. The baseline year is 2004. The dependent variable is *Market-adjusted store growth* (from the current year *t* to the next year *t + 1*). Results are from a pooled OLS regression that included an indicator variable for "treated" subsidiaries (i.e., if a foreign subsidiary's parent was exposed to the 2007 GFC in the home country = "1", and "0" otherwise), year indicator variables, and interactions between the treated subsidiary variable and year indicator variables. Plotted are the estimated coefficients and their 95% confidence intervals from the interaction terms between the treated subsidiary and year indicator variables with two leads and two lags around the 2007 GFC. The figure indicates that the market-adjusted store growth was significantly lower for treated subsidiaries after 2007, relative to control subsidiaries whose parents were not exposed to the GFC in the home country; while market-adjusted store growth was similar for both treated and control subsidiaries in the pre-GFC period between 2005 and 2007.

## Appendix B. Robustness Checks and Additional Analyses

**Table B1.** Including the Same Control Variables at the Level of Parent Country and Local Subsidiary Country

| *DV: Adjusted store growth* | (1) | (2): H1 | (3): H2 | (4): H3 | (5): H4 | (6): H5 | (7): H6 | (8) |
|---|---|---|---|---|---|---|---|---|
| Parent financial crisis (PFC) | | -0.083*** | -0.084*** | -0.075*** | -0.108*** | -0.101*** | -0.085*** | -0.113*** |
| | | (0.028) | (0.028) | (0.027) | (0.029) | (0.028) | (0.028) | (0.029) |
| PFC × parent focus on essential products | | | 0.024*** | | | | | 0.019** |
| | | | (0.009) | | | | | (0.009) |
| PFC × geographic proximity | | | | 0.035*** | | | | 0.029*** |
| | | | | (0.011) | | | | (0.011) |
| PFC × organizational structure (non-M-form) | | | | | 0.081*** | | | 0.059*** |
| | | | | | (0.022) | | | (0.022) |
| PFC × subsidiary age | | | | | | 0.030*** | | 0.027*** |
| | | | | | | (0.009) | | (0.009) |
| PFC × local credit/GDP | | | | | | | 0.020** | 0.019* |
| | | | | | | | (0.010) | (0.010) |
| Parent focus on essential products | -0.051*** | -0.051*** | -0.056*** | -0.049*** | -0.052*** | -0.051*** | -0.051*** | -0.054*** |
| | (0.018) | (0.018) | (0.018) | (0.017) | (0.018) | (0.018) | (0.018) | (0.017) |
| Geographic proximity | 0.162*** | 0.165*** | 0.167*** | 0.159*** | 0.170*** | 0.166*** | 0.164*** | 0.164*** |
| | (0.044) | (0.046) | (0.046) | (0.047) | (0.047) | (0.045) | (0.046) | (0.046) |
| Organizational structure (non-M-form) | 0.232 | 0.225 | 0.229 | 0.228 | 0.215 | 0.234 | 0.228 | 0.234 |
| | (0.172) | (0.172) | (0.172) | (0.173) | (0.173) | (0.171) | (0.174) | (0.173) |
| Subsidiary age | -0.613*** | -0.599*** | -0.599*** | -0.594*** | -0.575*** | -0.621*** | -0.598*** | -0.595*** |
| | (0.190) | (0.214) | (0.212) | (0.215) | (0.213) | (0.217) | (0.214) | (0.217) |
| Local credit/GDP | -0.068*** | -0.066*** | -0.063*** | -0.069*** | -0.068*** | -0.065*** | -0.086*** | -0.088*** |
| | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.024) | (0.024) |
| Parent-subsidiary relatedness | 0.208** | 0.210** | 0.214** | 0.208** | 0.211** | 0.220** | 0.209** | 0.220** |
| | (0.091) | (0.092) | (0.092) | (0.093) | (0.092) | (0.092) | (0.092) | (0.095) |
| Common language | 0.131 | 0.094 | 0.097 | 0.077 | 0.085 | 0.096 | 0.097 | 0.081 |
| | (0.118) | (0.118) | (0.117) | (0.118) | (0.118) | (0.117) | (0.119) | (0.117) |
| Local sister experience | 0.518*** | 0.518*** | 0.517*** | 0.519*** | 0.519*** | 0.513*** | 0.518*** | 0.515*** |
| | (0.051) | (0.051) | (0.051) | (0.051) | (0.051) | (0.051) | (0.051) | (0.051) |
| Parent home country sales/ parent total sales | -0.615*** | -0.590*** | -0.586*** | -0.579*** | -0.565*** | -0.574*** | -0.599*** | -0.554*** |
| | (0.171) | (0.170) | (0.170) | (0.169) | (0.168) | (0.171) | (0.171) | (0.169) |
| Parent public firm | 0.130*** | 0.120*** | 0.109** | 0.120*** | 0.103** | 0.114** | 0.119*** | 0.095** |
| | (0.046) | (0.044) | (0.045) | (0.045) | (0.045) | (0.044) | (0.044) | (0.046) |
| Parent international diversification | -0.051 | -0.037 | -0.027 | -0.034 | -0.028 | -0.020 | -0.042 | -0.009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.061) | (0.060) | (0.060) | (0.060) | (0.060) | (0.061) | (0.061) | (0.060) |
| Parent product diversification | -0.028 | -0.028 | -0.023 | -0.023 | -0.032 | -0.020 | -0.028 | -0.017 |
| | (0.065) | (0.065) | (0.064) | (0.065) | (0.065) | (0.064) | (0.065) | (0.063) |
| Parent country GDP (ln) | 0.077** | 0.067* | 0.068** | 0.065* | 0.062* | 0.066* | 0.072** | 0.065* |
| | (0.035) | (0.034) | (0.034) | (0.034) | (0.034) | (0.035) | (0.035) | (0.035) |
| Parent country GDP growth | -0.613 | -0.756* | -0.802** | -0.662 | -0.763* | -0.802** | -0.747* | -0.749* |
| | (0.404) | (0.404) | (0.407) | (0.405) | (0.403) | (0.406) | (0.403) | (0.411) |
| **Parent country concentration** | 0.786 | 0.822 | 0.732 | 0.878 | 0.716 | 0.630 | 0.892 | 0.620 |
| | (0.804) | (0.800) | (0.799) | (0.797) | (0.798) | (0.813) | (0.801) | (0.810) |
| **Parent country tax burden** | -0.300* | -0.212 | -0.203 | -0.206 | -0.211 | -0.173 | -0.213 | -0.165 |
| | (0.162) | (0.161) | (0.161) | (0.162) | (0.162) | (0.162) | (0.162) | (0.163) |
| **Parent country trade freedom** | -0.117 | -0.142 | -0.148 | -0.156 | -0.207 | -0.072 | -0.153 | -0.153 |
| | (0.302) | (0.298) | (0.299) | (0.297) | (0.300) | (0.296) | (0.297) | (0.298) |
| **Parent country monetary freedom** | -0.265 | -0.317 | -0.331 | -0.305 | -0.339 | -0.282 | -0.316 | -0.301 |
| | (0.291) | (0.290) | (0.291) | (0.290) | (0.291) | (0.291) | (0.290) | (0.292) |
| **Parent country credit-to-deposit ratio** | -0.011 | -0.012 | -0.012 | -0.011 | -0.011 | -0.011 | -0.011 | -0.009 |
| | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) |
| Local GDP (ln) | 0.198*** | 0.199*** | 0.200*** | 0.193*** | 0.196*** | 0.199*** | 0.205*** | 0.199*** |
| | (0.053) | (0.052) | (0.052) | (0.052) | (0.052) | (0.052) | (0.053) | (0.053) |
| Local GDP growth | -0.426* | -0.401* | -0.433* | -0.361 | -0.404* | -0.419* | -0.441** | -0.447** |
| | (0.224) | (0.224) | (0.223) | (0.225) | (0.224) | (0.223) | (0.222) | (0.222) |
| Local submarket concentration | 0.017 | 0.020 | 0.018 | 0.018 | 0.019 | 0.013 | 0.016 | 0.007 |
| | (0.054) | (0.055) | (0.055) | (0.055) | (0.055) | (0.055) | (0.054) | (0.055) |
| Local tax burden | -0.025 | -0.018 | -0.023 | -0.018 | -0.020 | -0.012 | -0.024 | -0.023 |
| | (0.072) | (0.072) | (0.073) | (0.072) | (0.072) | (0.072) | (0.072) | (0.073) |
| Local trade freedom | 0.112 | 0.110 | 0.109 | 0.104 | 0.110 | 0.109 | 0.110 | 0.103 |
| | (0.142) | (0.141) | (0.141) | (0.142) | (0.141) | (0.141) | (0.141) | (0.141) |
| Local monetary freedom | -0.027 | -0.018 | -0.020 | -0.029 | -0.011 | -0.025 | -0.015 | -0.026 |
| | (0.104) | (0.103) | (0.103) | (0.103) | (0.104) | (0.103) | (0.103) | (0.103) |
| Local credit-to-deposit ratio | 0.063* | 0.066** | 0.065** | 0.060* | 0.067** | 0.067** | 0.077** | 0.073** |
| | (0.033) | (0.033) | (0.033) | (0.033) | (0.033) | (0.033) | (0.034) | (0.034) |
| Local financial crisis | -0.006 | -0.002 | -0.002 | -0.030 | -0.004 | -0.007 | -0.012 | -0.041* |
| | (0.020) | (0.020) | (0.020) | (0.021) | (0.020) | (0.020) | (0.021) | (0.022) |
| Year effects | Y | Y | Y | Y | Y | Y | Y | Y |
| Subsidiary effects | Y | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.180 | 0.181 | 0.181 | 0.182 | 0.182 | 0.181 | 0.181 | 0.184 |
| Observations | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 |

*Note*. See Table 2. The bolded control variables are added in this analysis. *$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**Table B2.** Excluding Periods of Local Financial Crises

| *DV: Adjusted store growth* | (1): H1 | (2): H2 | (3): H3 | (4): H4 | (5): H5 | (6): H6 | (7) |
|---|---|---|---|---|---|---|---|
| Parent financial crisis (PFC) | -0.133*** | -0.153*** | -0.113*** | -0.167*** | -0.164*** | -0.134*** | -0.188*** |
| | (0.035) | (0.036) | (0.036) | (0.039) | (0.036) | (0.035) | (0.040) |
| PFC × parent focus on essential products | | 0.047*** | | | | | 0.033* |
| | | (0.016) | | | | | (0.019) |
| PFC × geographic proximity | | | 0.043*** | | | | 0.033** |
| | | | (0.013) | | | | (0.013) |
| PFC × organizational structure (non-M-form) | | | | 0.102*** | | | 0.074* |
| | | | | (0.036) | | | (0.040) |
| PFC × subsidiary age | | | | | 0.062*** | | 0.064*** |
| | | | | | (0.015) | | (0.016) |
| PFC × local credit/GDP | | | | | | 0.056*** | 0.049*** |
| | | | | | | (0.017) | (0.015) |
| Control variables | Y | Y | Y | Y | Y | Y | Y |
| Year effects | Y | Y | Y | Y | Y | Y | Y |
| Subsidiary effects | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.179 | 0.180 | 0.181 | 0.180 | 0.182 | 0.180 | 0.184 |
| Observations | 8,307 | 8,307 | 8,307 | 8,307 | 8,307 | 8,307 | 8,307 |
| Number of subsidiaries | 1,872 | 1,872 | 1,872 | 1,872 | 1,872 | 1,872 | 1,872 |

*Note*. See Table 2. Instead of controlling for local financial crises, the specifications reported in the table exclude periods during which subsidiaries are exposed to local financial crises. For brevity, the table presents only the coefficients of the *Parent financial crisis* variable and the interaction terms of interest.

*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**Table B3.** Controlling for Local Shocks with Host Country-Year Fixed Effects

| *DV: Adjusted store growth* | (1): H1 | (2): H2 | (3): H3 | (4): H4 | (5): H5 | (6): H6 | (7) |
|---|---|---|---|---|---|---|---|
| Parent financial crisis (PFC) | -0.067** | -0.068** | -0.037 | -0.090*** | -0.081*** | -0.079*** | -0.081** |
| | (0.028) | (0.028) | (0.028) | (0.029) | (0.029) | (0.030) | (0.035) |
| PFC × parent focus on essential products | | 0.017* | | | | | 0.011 |
| | | (0.009) | | | | | (0.009) |
| PFC × geographic proximity | | | 0.058*** | | | | 0.048** |
| | | | (0.022) | | | | (0.022) |
| PFC × organizational structure (non-M-form) | | | | 0.075*** | | | 0.062*** |
| | | | | (0.022) | | | (0.022) |
| PFC × subsidiary age | | | | | 0.023** | | 0.018* |
| | | | | | (0.010) | | (0.011) |
| PFC × local credit/GDP | | | | | | 0.039* | 0.023 |
| | | | | | | (0.022) | (0.023) |
| Control variables | Y | Y | Y | Y | Y | Y | Y |
| Year effects | Y | Y | Y | Y | Y | Y | Y |
| Subsidiary effects | Y | Y | Y | Y | Y | Y | Y |
| Host country × year effects | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.260 | 0.260 | 0.261 | 0.261 | 0.261 | 0.260 | 0.262 |
| Observations | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 |
| Number of subsidiaries | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 |

*Note*. See Table 2. Instead of controlling for local financial crisis, the specifications reported in the table include host country-year joint fixed effects to capture all types of potential host country shocks that might be correlated with PFC. For brevity, the table presents only the coefficients of the *Parent financial crisis* variable and the interaction terms of interest.
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**Table B4.** Results for Parent-Level Store Growth in the Home Country

| | Measure of SFC | |
|---|---|---|
| | (1): Dummy | (2): Count |
| Parent financial crisis (PFC) | -0.116*** | -0.106** |
| (i.e., financial crisis in home country) | (0.034) | (0.046) |
| Subsidiary financial crisis (SFC) | 0.033 | 0.000 |
| (i.e., financial crisis in host countries) | (0.080) | (0.001) |
| Control variables | Y | Y |
| Year effects | Y | Y |
| Parent effects | Y | Y |
| $R^2$ | 0.261 | 0.261 |
| Observations | 897 | 897 |
| Number of parent firms | 123 | 123 |

*Note.* Analysis is at the parent-(home)country-year level. Reported are results from an OLS fixed effects (FE) regression model. Robust standard errors clustered at the parent-country level are in parentheses. *F*-tests were significant at $p < 0.001$. The dependent variable *Store growth* is the percentage change in a parent firm's stores in the given home country from the current year *t* to the next year *t + 1* (i.e., [#Stores$_{t+1}$ /#Stores$_t$] - 1). The SFC variable reported in Column (1) equals "1" if a parent has at least one subsidiary located in a host country that is hit by a financial crisis in a given year, and "0" otherwise. The SFC variable reported in Column (2) is a count of the number of subsidiaries that are exposed to host country crises in a given year. Control variables include parent MNE size, public firm, focus on essential products, international diversification, and product diversification as well as home-country GDP, GDP growth, tax burden, trade freedom, and monetary freedom. The insignificant coefficient on SFC suggests that crises at the subsidiary level do not affect store growth in the home country.
*$p < 10\%$; **$p < 5\%$; ***$p < 1\%$.

**B5. Heckman Selection Model**

To the extent that our control variables do not capture firm and country characteristics associated with the choice of being part of an MNE, our conclusions might be biased. This potential issue is addressed by estimating a Heckman two-stage selection model. The Heckman model allows us to estimate the hypothesized relationships between aspects of the internal capital market (as measured by our independent variable (PFC) and moderators) and subsidiary-level adjusted store growth while controlling for unobservable factors affecting the choice of being part of an MNE. The exclusion restriction in the first-stage regression is the proportion of restaurant chains that are part of an MNE (vs. domestic restaurant chains) in a given country and year. While this variable likely captures the attractiveness (or optimality) for multiunit chains in general to be part of an MNE, the decision of restaurant chains to be part of an MNE—as opposed to competing as domestic restaurant chains—is unlikely to affect the adjusted store growth of retail chains directly.

Table B5 below reports the results. It shows that all hypotheses remain supported when we account for possible sample-induced endogeneity. It also indicates that the coefficient of the exclusion restriction (*Restaurant MNE proportion*) in the first stage is positive and significant ($\beta = 1.263$, $p < 0.01$). Unreported analysis also showed that the effect of *Restaurant MNE proportion* on the adjusted store growth of retail subsidiaries was insignificant ($\beta = -0.105$, $p > 0.10$), conditional on control variables and fixed effects. These tests suggest *Restaurant MNE proportion* satisfies the assumptions for an "excluded instrument."

**Table B5.** Results for Heckman Selection Model

| *Two-Stage Selection Model:* | *1st Stage* | *2nd Stage* | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2): H1 | (3): H2 | (4): H3 | (5): H4 | (6): H5 | (7): H6 | (8) |
| Parent financial crisis (PFC) | | -0.022** | -0.022** | -0.021** | -0.029*** | -0.026** | -0.019* | -0.028*** |
| | | (0.010) | (0.010) | (0.010) | (0.011) | (0.010) | (0.010) | (0.011) |
| PFC × parent focus on essential products | | | 0.017*** | | | | | 0.014** |
| | | | (0.005) | | | | | (0.005) |
| PFC × geographic proximity | | | | 0.015** | | | | 0.013** |
| | | | | (0.006) | | | | (0.007) |
| PFC × organizational structure (non-M-form) | | | | | 0.035** | | | 0.026* |
| | | | | | (0.015) | | | (0.015) |
| PFC × subsidiary age | | | | | | 0.016*** | | 0.014*** |
| | | | | | | (0.005) | | (0.005) |
| PFC × local credit/GDP | | | | | | | 0.016** | 0.013** |
| | | | | | | | (0.006) | (0.006) |
| Parent focus on essential products | | -0.007*** | -0.013*** | -0.007*** | -0.008*** | -0.008*** | -0.008*** | -0.013*** |
| | | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Geographic proximity | | 0.007 | 0.007 | 0.001 | 0.007 | 0.006 | 0.007 | 0.001 |
| | | (0.009) | (0.009) | (0.010) | (0.009) | (0.009) | (0.009) | (0.010) |
| Organizational structure (non-M-form) | | 0.004 | 0.004 | 0.004 | -0.004 | 0.003 | 0.004 | -0.001 |
| | | (0.007) | (0.007) | (0.007) | (0.008) | (0.007) | (0.007) | (0.008) |
| Subsidiary age | -0.062*** | -0.041*** | -0.042*** | -0.041*** | -0.042*** | -0.047*** | -0.041*** | -0.047*** |
| | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.005) | (0.004) | (0.005) |
| Local credit/GDP | -0.001*** | 0.021 | 0.021 | 0.026 | 0.021 | 0.022 | 0.032 | 0.036* |
| | (0.000) | (0.020) | (0.020) | (0.021) | (0.020) | (0.020) | (0.021) | (0.021) |
| Parent-subsidiary relatedness | | 0.012 | 0.012 | 0.012 | 0.012 | 0.012 | 0.012 | 0.012 |
| | | (0.009) | (0.009) | (0.009) | (0.009) | (0.009) | (0.009) | (0.009) |
| Common language | | 0.006 | 0.007 | 0.006 | 0.006 | 0.006 | 0.006 | 0.007 |
| | | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| Local sister experience | | 0.020*** | 0.020*** | 0.020*** | 0.020*** | 0.020*** | 0.020*** | 0.020*** |
| | | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Parent home country sales / parent total sales | | 0.049*** | 0.051*** | 0.050*** | 0.049*** | 0.052*** | 0.049*** | 0.054*** |
| | | (0.016) | (0.016) | (0.016) | (0.016) | (0.016) | (0.016) | (0.016) |
| Parent public firm | | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.002 |
| | | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) |
| Parent international diversification | | 0.011** | 0.013** | 0.011** | 0.011** | 0.012** | 0.011** | 0.013*** |
| | | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Parent product diversification | | -0.016** | -0.015** | -0.017** | -0.016** | -0.016** | -0.016** | -0.015* |
| | | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) | (0.008) |
| Parent country GDP (ln) | | -0.005* | -0.005* | -0.005* | -0.005* | -0.005* | -0.005* | -0.005* |
| | | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Parent country GDP growth | | -0.038 | -0.014 | -0.039 | -0.058 | -0.038 | -0.020 | -0.019 |
| | | (0.119) | (0.119) | (0.118) | (0.119) | (0.118) | (0.119) | (0.119) |
| Local GDP (ln) | -0.204*** | -0.036* | -0.034 | -0.028 | -0.036* | -0.035 | -0.033 | -0.024 |
| | (0.009) | (0.021) | (0.021) | (0.022) | (0.021) | (0.021) | (0.021) | (0.022) |
| Local GDP growth | 1.009** | 0.108 | 0.088 | 0.084 | 0.105 | 0.109 | 0.125 | 0.082 |
| | (0.431) | (0.107) | (0.107) | (0.107) | (0.107) | (0.107) | (0.107) | (0.107) |
| Local submarket concentration | 0.173*** | -0.011 | -0.012 | -0.012 | -0.012 | -0.013 | -0.012 | -0.015 |
| | (0.040) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) |
| Local tax burden | 0.417*** | 0.023 | 0.020 | 0.014 | 0.022 | 0.023 | 0.027 | 0.016 |
| | (0.072) | (0.039) | (0.039) | (0.039) | (0.039) | (0.039) | (0.039) | (0.039) |
| Local trade freedom | 0.127 | 0.130* | 0.126* | 0.136* | 0.129* | 0.129* | 0.132* | 0.132* |
| | (0.209) | (0.073) | (0.073) | (0.073) | (0.073) | (0.073) | (0.073) | (0.073) |
| Local monetary freedom | -0.466*** | -0.067 | -0.069 | -0.065 | -0.067 | -0.064 | -0.058 | -0.058 |
| | (0.026) | (0.069) | (0.069) | (0.069) | (0.069) | (0.069) | (0.069) | (0.069) |
| Local credit-to-deposit ratio | -0.071*** | 0.003 | 0.004 | 0.008 | 0.003 | 0.005 | 0.007 | 0.012 |
| | (0.024) | (0.015) | (0.015) | (0.015) | (0.015) | (0.015) | (0.015) | (0.015) |
| Local financial crisis | -0.032 | 0.001 | 0.001 | -0.006 | 0.001 | -0.002 | -0.006 | -0.014 |
| | (0.038) | (0.010) | (0.010) | (0.011) | (0.010) | (0.010) | (0.011) | (0.011) |
| Restaurant MNE proportion | 1.263*** | | | | | | | |
| (= exclusion restriction) | (0.061) | | | | | | | |
| Constant | 8.756*** | 0.677 | 0.647 | 0.488 | 0.691 | 0.661 | 0.597 | 0.419 |
| | (0.370) | (0.539) | (0.538) | (0.544) | (0.538) | (0.538) | (0.539) | (0.544) |
| Correction for | | 0.043 | 0.043 | 0.039 | 0.044 | 0.038 | 0.036 | 0.031 |
| self-selection ($\lambda$) | | (0.040) | (0.040) | (0.040) | (0.040) | (0.040) | (0.040) | (0.040) |
| Wald chi$^2$ | | 1,030*** | 1,041*** | 1,037*** | 1,035*** | 1,041*** | 1,039*** | 1,066*** |

*Notes*. Analysis is at the retail chain-country-year level. Reported are results from a Heckman two-stage selection model. Standard errors are in parentheses. Country and year fixed effects are included but not reported in the table. Column (1) reports the results for the first-stage regression with *MNE dummy* as the dependent variable, which equals "1" if a retail chain is part of a multinational retailer (i.e., a foreign subsidiary) in a given country and year, and "0" if a retail chain is operating exclusively in a given country in any given year (i.e., a domestic retail chain). The exclusion restriction *Restaurant MNE proportion* is the proportion of restaurant chains that are part of a multinational restaurant firm (vs. domestic restaurant chains) in a given country and year. Columns (2)-(8) report results for the second-stage regressions with *Market-adjusted store growth* (for selected foreign subsidiaries) as the dependent variable. The other variables are described in the main analysis of the paper. The selection effect ($\lambda$) indicates a positive but insignificant correlation between the choice of being a foreign subsidiary and adjusted store growth in the host country, suggesting that our OLS estimates reported in Table 2 are not biased by sample-induced endogeneity (note that in unreported analysis, $\lambda$ was significant when country effects were excluded from the analysis, implying that potential problems of self-selection are mitigated in our main analysis by our inclusion of subsidiary fixed effects).
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**B6. Two-Stage Least Squares (2SLS) Estimation**

A 2SLS model is used to account for the potential endogeneity of our moderating variables organizational structure and subsidiary age. The ideal instrumental variable (IV) is correlated with the endogenous variable and does not affect the dependent variable directly (i.e., the exclusion restriction is satisfied). Using this criterion, we identified the following IVs. First, the instrument for organizational structure (non-M-form) is the fraction of all parent retailers using a non-M-form structure in the same parent country in a given year. The higher the fraction of non-M-form structures, the more attractive parent country factors are for using non-M-form structures; at the same time, the fraction of non-M-form structures in the parent country is unlikely to affect a foreign subsidiary's adjusted store growth in the host country directly (i.e., other than through the parent's structure). Second, the instrument for subsidiary age is the mean age of restaurant chains in the same country in a given year, capturing the overall attractiveness of the country environment to multiunit chains (including market entry and exit decisions affecting chain age). While the mean age of restaurant chains is likely correlated with the age of retail chains, it is unlikely that the mean age of *restaurant chains* affects the adjusted store growth of (foreign) *retail chains* directly. This IV is computed using the sample of restaurant chains described in the Heckman model (see Section B5).

As suggested by Wooldridge (2002), we separately instrument in the first stage the endogenous variables (i.e., organizational structure and subsidiary age) and their interactions with PFC (i.e., organizational structure × PFC and subsidiary age × PFC). To do so, we interact our IVs for organizational structure and subsidiary age with PFC and use these variables as instruments for organizational structure × PFC and subsidiary age × PFC, respectively (for a similar approach, see Desai and Dharmapala 2009). This approach gives us a total of four instruments to predict organizational structure and organizational structure × PFC as well as subsidiary age and subsidiary age × PFC in the first stage.

Table B6a below reports the first-stage regression results predicting the endogenous variables and their interactions with PFC. The *F*-statistics for the excluded instruments in the first stage indicate that our instruments are strong (Stock and Yogo 2005). The second-stage regression results are presented in Table B6b, showing that the corresponding hypotheses (i.e., H4 and H5) remain

supported when the fitted values from the first stage are used as instruments for the potentially endogenous variables and their interactions with PFC. Overall, while the effect sizes of the IV estimates are larger than those of the OLS estimates, the signs and significance levels of the coefficient estimates are consistent, suggesting that our conclusions regarding H4 and H5 are not biased by unobserved time-varying factors.

**References**


Desai MA, Dharmapala D (2009) Corporate tax avoidance and firm value. *Rev. Econ. Stat.* 91(3): 537-546.

Stock JH, Yogo M (2005) Testing for weak instruments in linear IV regression. In *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, ed. DWK Andrews and JH Stock, 80–108 (Cambridge University Press, New York).

Wooldridge JM (2002) *Econometric analysis of cross section and panel data* (MIT Press, Cambridge MA).

**Table B6a.** 2SLS Model: First-Stage IV Results

| *Dependent variable:* | *Organ. structure (non-M-form)* | *PFC × organ. structure* | *Subsidiary age* | *PFC × subsidiary age* |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| *Exogenous instruments* | | | | |
| Fraction non-M-form IV | **1.069*** ** | -0.023** | | |
| | **(0.043)** | (0.011) | | |
| PFC × fraction non-M-form IV | -0.017 | **1.198*** ** | | |
| | (0.056) | **(0.066)** | | |
| Mean age restaurants IV | | | **0.203*** ** | -0.056*** |
| | | | **(0.041)** | (0.019) |
| PFC × mean age restaurants IV | | | 0.151*** | **0.465*** ** |
| | | | (0.043) | **(0.051)** |
| Control variables | Y | Y | Y | Y |
| *F*-statistics of excluded instruments | 316.9*** | 167.7*** | 30.0*** | 42.6*** |
| Observations | 9,769 | 9,769 | 9,769 | 9,769 |
| Number of subsidiaries | 1,968 | 1,968 | 1,968 | 1,968 |

*Note*. Analysis is at the subsidiary-(host)country-year level. Reported are first-stage instrumental variable (IV) results from a two-stage least-squares (2SLS) regression model. Robust standard errors clustered at the subsidiary level are in parentheses. Host country and year fixed effects are included but not reported in the table (note that host country effects are included instead of subsidiary effects because the inclusion of the latter greatly reduced the power of the instruments). The exogenous instrumental variables are *Fraction non-M-form IV*, *PFC × fraction non-M-form IV*, *Mean age restaurants IV*, and *PFC × mean age restaurants IV*, as defined above. *Fraction non-M-form IV* is used as instrument for *Organizational structure (non-M-form)* and *Mean age restaurants IV* is used as instrument for *Subsidiary age*. These instruments are interacted with PFC and used as instruments for *PFC × organizational structure (non-M-form)* and *PFC × subsidiary age*, respectively. The *F*-statistics for the excluded instruments in the first stage indicate that the instruments are strong. Control variables are defined in the main analysis and IVs are defined above. The bolded coefficients show that the instruments are significantly and positively correlated with the instrumented variables.
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**Table B6b.** 2SLS Model: Second-Stage IV Results

| *Dependent variable:* | *Adjusted store growth* | | |
|---|---|---|---|
| | (1): H4 | (2): H5 | (3) |
| Parent financial crisis (PFC) | -0.045** | -0.233** | -0.312*** |
| | (0.020) | (0.111) | (0.094) |
| PFC × organizational structure (non-M-form) | 0.197*** | | 0.128** |
| | (0.056) | | (0.059) |
| PFC × subsidiary age | | 0.045* | 0.054** |
| | | (0.024) | (0.021) |
| Organizational structure (non-M-form) | -0.049 | -0.010 | -0.045 |
| | (0.033) | (0.018) | (0.036) |
| Subsidiary age | -0.017*** | -0.024 | -0.021 |
| | (0.002) | (0.034) | (0.034) |
| Control variables | Y | Y | Y |
| Observations | 9,769 | 9,769 | 9,769 |
| Number of subsidiaries | 1,968 | 1,968 | 1,968 |

*Note*. Analysis is at the subsidiary-(host)country-year level. Reported are second-stage IV results from a 2SLS regression model. Robust standard errors clustered at the subsidiary level are in parentheses. Host country and year fixed effects are included but not reported in the table. In Column (1), the instrumented variables are *Organizational structure (non-M-form)* and *PFC × organizational structure (non-M-form).* In Column (2), the instrumented variables are *Subsidiary age* and *PFC × subsidiary age.* In Column (3), all four potentially endogenous variables are instrumented (note that the first-stage regressions corresponding to Column (3) were not reported in Table B6a to conserve space (these results were very similar to those reported in Table B6a and are available on request)). The dependent variable is defined in the main analysis and measured from the current year *t* to the next year *t +1*, and all control and instrumental variables are measured in year *t*.
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

**Table B7**. Using Market-Adjusted Sales Growth as DV

| *DV: Adjusted sales growth* | (1): H1 | (2): H2 | (3): H3 | (4): H4 | (5): H5 | (6): H6 | (7) |
|---|---|---|---|---|---|---|---|
| Parent financial crisis (PFC) | -0.156*** | -0.157*** | -0.158*** | -0.178*** | -0.187*** | -0.158*** | -0.209*** |
| | (0.038) | (0.038) | (0.037) | (0.041) | (0.041) | (0.038) | (0.043) |
| PFC × parent focus on essential products | | 0.039** | | | | | 0.032** |
| | | (0.017) | | | | | (0.016) |
| PFC × geographic proximity | | | -0.007 | | | | -0.015 |
| | | | (0.013) | | | | (0.013) |
| PFC × organizational structure (non-M-form) | | | | 0.072** | | | 0.052** |
| | | | | (0.030) | | | (0.025) |
| PFC × subsidiary age | | | | | 0.052*** | | 0.052*** |
| | | | | | (0.014) | | (0.014) |
| PFC × local credit/GDP | | | | | | 0.028** | 0.029** |
| | | | | | | (0.014) | (0.014) |
| Control variables | Y | Y | Y | Y | Y | Y | Y |
| Year effects | Y | Y | Y | Y | Y | Y | Y |
| Subsidiary effects | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.014 | 0.014 | 0.014 | 0.014 | 0.014 | 0.014 | 0.014 |
| Observations | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 |
| Number of subsidiaries | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 |

*Note*. See Table 2. Instead of using *Market-adjusted store growth*, the table reports results for *Market-adjusted sales growth* as dependent variable (DV). For brevity, the table presents only the coefficients of the *Parent financial crisis* variable and the interaction terms of interest.
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

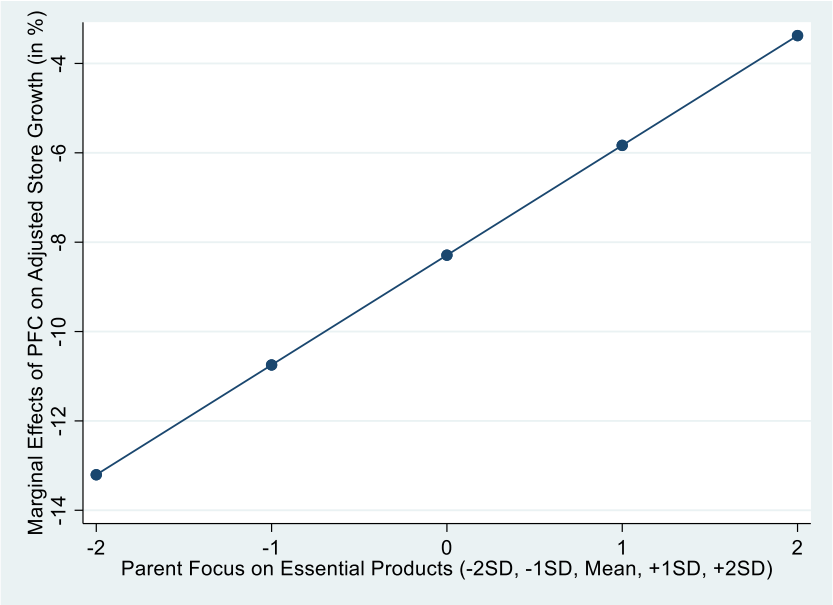
**Table B8**. Including Parent Fixed Effects

| *DV: Adjusted store growth* | (1): H1 | (2): H2 | (3): H3 | (4): H4 | (5): H5 | (6): H6 | (7) |
|---|---|---|---|---|---|---|---|
| Parent financial crisis (PFC) | -0.084*** | -0.085*** | -0.076*** | -0.111*** | -0.100*** | -0.085*** | -0.113*** |
| | (0.027) | (0.027) | (0.027) | (0.029) | (0.028) | (0.027) | (0.029) |
| PFC × parent focus on essential products | | 0.022** | | | | | 0.016* |
| | | (0.009) | | | | | (0.009) |
| PFC × geographic proximity | | | 0.036*** | | | | 0.030*** |
| | | | (0.011) | | | | (0.011) |
| PFC × organizational structure (non-M-form) | | | | 0.082*** | | | 0.062*** |
| | | | | (0.022) | | | (0.022) |
| PFC × subsidiary age | | | | | 0.029*** | | 0.025*** |
| | | | | | (0.009) | | (0.009) |
| PFC × local credit/GDP | | | | | | 0.020** | 0.019* |
| | | | | | | (0.010) | (0.010) |
| Control variables | Y | Y | Y | Y | Y | Y | Y |
| Year effects | Y | Y | Y | Y | Y | Y | Y |
| Parent effects | Y | Y | Y | Y | Y | Y | Y |
| Subsidiary effects | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.183 | 0.183 | 0.184 | 0.184 | 0.184 | 0.183 | 0.186 |
| Observations | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 | 9,769 |
| Number of subsidiaries | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 | 1,968 |

*Note*. See Table 2. Parent effects are identified because some subsidiaries changed their parent during the sample period. For brevity, the table presents only the coefficients of the *Parent financial crisis* variable and the interaction terms of interest.
*$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

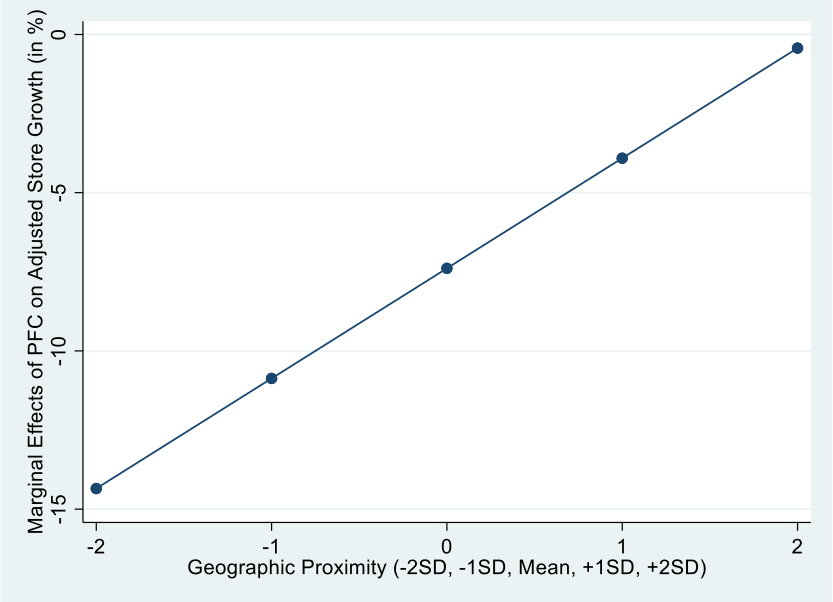
## Appendix C. Figures

**Figure C1.** The Marginal Effect of PFC on Adjusted Store Growth for Different Levels of Parent Focus on Essential Products



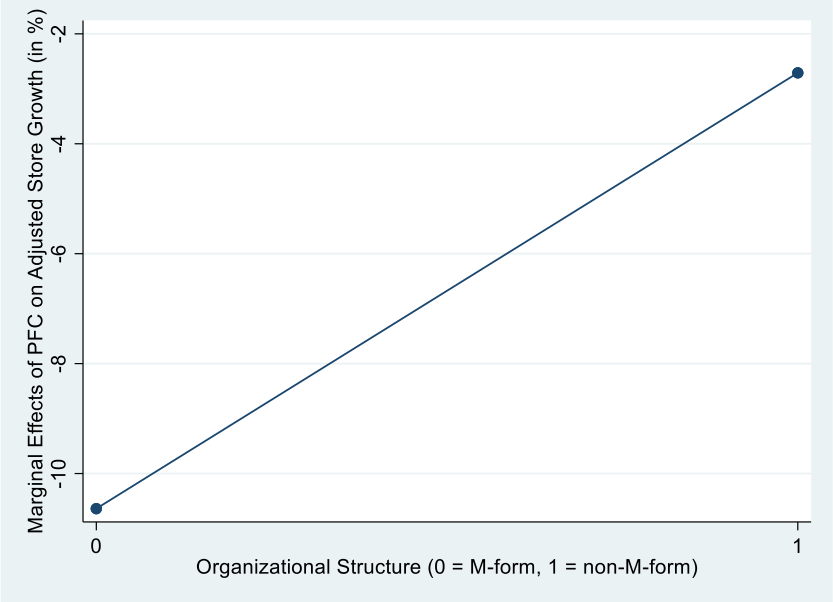

*Note*. The dependent variable is subsidiary-level market-adjusted store growth in %. Depicted are results of Column (3) in Table 2 at different levels of the moderator parent focus on essential products.

**Figure C2.** The Marginal Effect of PFC on Adjusted Store Growth for Different Levels of Geographic Proximity




*Note*. The dependent variable is subsidiary-level market-adjusted store growth in %. Depicted are results of Column (4) in Table 2 at different levels of the moderator geographic proximity.

**Figure C3.** The Marginal Effect of PFC on Adjusted Store Growth for Different Types of Organizational Structure




*Note*. The dependent variable is subsidiary-level market-adjusted store growth in %. Depicted are results of Column (5) in Table 2 at different levels of the moderator organizational structure.

**Figure C4.** The Marginal Effect of PFC on Adjusted Store Growth for Different Levels of Subsidiary Age


*Note*. The dependent variable is subsidiary-level market-adjusted store growth in %. Depicted are results of Column (6) in Table 2 at different levels of the moderator subsidiary age.

**Figure C5.** The Marginal Effect of PFC on Adjusted Store Growth for Different Levels of Local Credit/GDP


*Note*. The dependent variable is subsidiary-level market-adjusted store growth in %. Depicted are results of Column (7) in Table 2 at different levels of the moderator local credit/GDP.

## Appendix D. Difference-in-Differences Analysis

Difference-in-differences analysis is used to explore the impact of the global financial crisis (GFC) in a subsample of foreign subsidiaries whose parents are either from the US or Japan, which represent the world's largest developed economies with significant global linkages. The US retail trade volume dropped significantly during the 2008-2010 period (relative to the pre-GFC period), while there was little or no effect on the Japanese retail trade volume during this period (see, e.g., OECD's retail trade volume index).[1] Foreign subsidiaries were assigned to the treated group if their parent was from the US and to the control group if their parent was from Japan.

Results are reported in Table D1 below. The test for parallel trends in the pre-treatment period did not reject the null of parallel growth trends between treated and control groups ($F = 6.66$, $p = 0.24$). All specifications reported in Columns (1)-(7) include host country fixed effects to compare foreign subsidiaries within the same host country (i.e., we examine how differences in exposure to the GFC in the parent country affect market-adjusted store growth by foreign subsidiaries within the same host country). If macro-level relationships across countries would spuriously produce our results, foreign subsidiaries in the treated and control groups should be similarly affected by the GFC, conditional on host country effects and control variables. Results show that the parent-level shock (i.e., GFC in the parent country) affects adjusted store growth by foreign subsidiaries, consistent with our main analysis results and theory around intra-organizational shock transmission within MNEs.

## References

Laeven L, Valencia F (2013) Systemic banking crises database. *IMF Econ. Rev.* 61(2):225-270.

[1] https://stats.oecd.org/index.aspx?queryid=209. Note that Japan did not experience a systemic banking crisis during this period (Laeven and Valencia 2013).

**Table D1**. Difference-in-Differences Results for Adjusted Store Growth

| *DV: Adjusted store growth* | (1): H1 | (2): H2 | (3): H3 | (4): H4 | (5): H5 | (6): H6 | (7) |
|---|---|---|---|---|---|---|---|
| Treatment (Treated × Post) | -0.101*** | -0.104*** | -0.096*** | -0.124*** | -0.136*** | -0.101*** | -0.155*** |
| | (0.030) | (0.030) | (0.029) | (0.022) | (0.027) | (0.032) | (0.017) |
| Treatment × parent focus on essential products | | 0.046*** | | | | | 0.017 |
| | | (0.009) | | | | | (0.019) |
| Treatment × geographic proximity | | | 0.049*** | | | | 0.046*** |
| | | | (0.009) | | | | (0.007) |
| Treatment × organizational structure (non-M-form) | | | | 0.151*** | | | 0.157*** |
| | | | | (0.042) | | | (0.059) |
| Treatment × subsidiary age | | | | | 0.070*** | | 0.069*** |
| | | | | | (0.010) | | (0.015) |
| Treatment × local credit/GDP | | | | | | 0.044*** | 0.061*** |
| | | | | | | (0.016) | (0.012) |
| Control variables | Y | Y | Y | Y | Y | Y | Y |
| Year effects | Y | Y | Y | Y | Y | Y | Y |
| Host country effects | Y | Y | Y | Y | Y | Y | Y |
| $R^2$ | 0.172 | 0.174 | 0.174 | 0.174 | 0.173 | 0.172 | 0.178 |
| Observations | 1,505 | 1,505 | 1,505 | 1,505 | 1,505 | 1,505 | 1,505 |
| Number of subsidiaries | 382 | 382 | 382 | 382 | 382 | 382 | 382 |

*Note*. See Table 2. This table reports results from OLS random effects regressions that examine the effect of the global financial crisis (GFC) in the parent country on market-adjusted store growth of subsidiaries using a difference-in-differences estimation strategy. The sample only includes foreign subsidiaries whose parents are from the US or Japan for the period from 2004 to 2010. The *Treated* variable equals "1" for foreign subsidiaries whose parents are from the US (i.e., the treated group), and "0" for those whose parents are from Japan (i.e., the control group). The *Post* variable equals "1" for years after 2007 (i.e., 2008-2010), and "0" otherwise (i.e., 2004-2007). This variable is absorbed by the year effects. *Treatment* is an indicator variable for the interaction between the *Treated* and *Post* variables (i.e., *Treated* × *Post*), and represents the effect of interest. For brevity, the table presents only the coefficients of the *Treatment* variable and the interaction terms of interest. 79.1% of the observations are from the treated group and 39.7% are from the post period (2008-2010). For example, results in Column (1) indicate that in the years after 2007, adjusted store growth decreased in the treated group by 10.1 percentage points per year, on average, relative to the control group. In unreported analysis, we only included treated observations if there was at least 1 control observation in a given host country and year; results were robust. *$p$ < 10%; **$p$ < 5%; ***$p$ < 1%.

## Appendix E. Variable Description

**Table E1.** Summary of Key Variables and Data Sources

| Variable | Measure | Source |
|---|---|---|
| *Dependent variable* | | |
| Market-adjusted store growth | Computed by subtracting the mean store growth of domestic retail chains that operate exclusively in a given geography from the store growth of a foreign subsidiary, where store growth is the percentage change in a retail chain's number of stores in the given country from the current year $t$ to the next year $t + 1$ (i.e., [#Stores$_{t+1}$ /#Stores$_t$] - 1). | Edge Retail Insight |
| *Independent variable* | | |
| Parent financial crisis | Dummy that equals "1" in parent country crisis years, and "0" otherwise. | Systemic banking crises database |
| *Moderating variables* | | |
| Parent focus on essential products | Fraction of annual sales that a parent firm generates with food versus nonfood retail formats (standardized). | Edge Retail Insight |
| Geographic proximity | Physical geographic distance (in kilometers) between the subsidiary's host country and its parent's home country, multiplied by -1 to reflect proximity (standardized). | GeoDist from Science Po |
| Organizational structure (non-M- form) | Dummy that equals "1" for the years in which a parent firm did not have the multidivisional (M-form) structure. | Refinitiv |
| Subsidiary age | Count of years since a chain entered the host country between 1998 and 2010 (standardized). | Edge Retail Insight |
| Local credit/GDP | Domestic credit to private sector as a share of GDP in the host country (standardized). | World Bank |
| *Control variables* | | |
| Parent-subsidiary relatedness | Dummy that equals "1" if the parent and subsidiary share the same two-digit SIC code, and "0" otherwise. | Edge Retail Insight and Compustat |
| Common language | Dummy that equals "1" when the home and host country have the same language, and "0" otherwise. | GeoDist from Science Po |
| Local sister experience | Cumulative number of stores (log plus 1) operated by all sister chains except the focal chain in the host country over the past three years, discounted by time. | Edge Retail Insight |
| Parent home country sales/parent total sales | Parent sales in the home country divided by the parent's total sales (i.e., the MNE's fraction of home country sales). | Edge Retail Insight |
| Parent public firm | Dummy that takes the value of "1" when the parent is listed in the Compustat database, and "0" otherwise. | Compustat |
| Parent international diversification | Entropy index of firm diversification across countries. | Edge Retail Insight |
| Parent product diversification | Entropy index of firm diversification across two-digit SIC industries. | Edge Retail Insight |
| Parent country GDP | Natural log of the GDP in the home country. | World Bank |
| Parent country GDP growth | Percentage change in a home country's GDP over successive years. | World Bank |
| Local GDP | Natural log of the GDP in the host country. | World Bank |
| Local GDP growth | Percentage change in a host country's GDP over successive years. | World Bank |
| Local submarket concentration | Herfindahl-Hirschman index of the sales-based market share of each chain at the format-country-year level. | Edge Retail Insight |

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| Local tax burden | Tax burden that is imposed by the host country government, measured on a scale from 0 to 1 (original scale is divided by 100). | Heritage Foundation |
| Local trade freedom | Trade freedom is a composite measure of the extent of tariff and nontariff barriers that affect imports and exports of goods and services, measured on a scale from 0 to 1 (original scale is divided by 100). | Heritage Foundation |
| Local monetary freedom | Monetary freedom combines a measure of inflation and price controls in the host country, measured on a scale from 0 to 1 (original scale is divided by 100). | Heritage Foundation |
| Local credit-to-deposit ratio | Bank credit to bank deposit (%) divided by 100. | World Bank |
| Local financial crisis | Dummy that equals "1" in host-country crisis years, and "0" otherwise. | Systemic banking crises database |