Trade Wars and Solar Flares: The Unintended Consequences of Ray-dical Protectionist Policies

João Albino-Pimentel[1] and A. Oriana Montti[2]

[1]Darla Moore School of Business, University of South Carolina
[2]International Business School, Brandeis University

April 18, 2024

Click here for the latest version

Abstract

The recent shift in the global economy from openness to trade protectionism challenges international business (IB) practice and theory. We develop a framework in which multinational enterprises face international changes under the World Trade Organization rules and complement it with a resource-based view of IB. We use this framework to analyze unintended consequences on targeted multinational enterprises (MNE). We examine the anti-dumping and countervailing duties implemented by the United States on the import of solar panels from China in 2012. Using the Directory of Corporate Affiliations database and a difference-in-differences design, we document how this shock affects Chinese MNEs and how they react. Our findings show that targeted multinationals experience a reduction in their net income and return on assets the year the policy is implemented. They respond by restructuring their domestic units, increasing the regional dispersion of their foreign subsidiaries, and diversifying their industrial activities. We find large heterogeneity in these corporations that condition their strategic responses and how they adapt to the changing environment. Our results show that US protectionism harms Chinese MNEs in the short term and that they respond with several strategies to regain financial strength and market preeminence.

Keywords: Trade Policy, Anti-Dumping, MNEs, Solar Panels, United States, China.

1 Introduction

The recent shift in the global economy from openness to trade protectionism and the increased prevalence of industrial policy challenge international business (IB) practice and theory (Luo (2023)). This paradigm change raises questions about the effects on multinational enterprises (MNE) facing uncertainties in their global operations (Luo and Van Assche (2023), Buckley (2020)). Especially when targeted firms are part of corporate families that develop several industrial and business activities, how does the whole corporate structure react to a firm being affected by protectionism?

We examine these questions with a quasi-experimental empirical design and detailed data on Chinese MNEs. Building on the proposal by Meyer et al. (2023) for the study of firms facing sanctions, we develop a framework in which multinational enterprises face changes in international conditions from the World Trade Organization-supported anti-dumping and countervailing duties. We complement this institutional-based view of IB theory with a resource-based view, emphasizing the use of existing resources such as capital and technology, and the development of new ones by expanding their geographical scope.

The current discussion on changes in IB institutional conditions emphasizes protectionism as moving away from the World Trade Organization (WTO) rules. It focuses on cases such as the US and China trade war or the protectionist measures that industrialized countries have implemented after the COVID-19 pandemic and that base their motivation on supply chain or national security concerns.

However, MNEs may face institutional challenges even in a stable international rule-based system. This is the case with anti-dumping and countervailing duties (AD-CVDs) which can be a one-sided change to bilateral trade conditions. Changes in trade policy affect many aspects of MNEs' activities and have unintended consequences that amplify uncertainty in the global economy (Meyer et al. (2023), Gereffi et al. (2021)). For firms operating globally, these protectionist policies have the potential to harm their operations, use, and development of resources.

We apply our framework to study the unintended consequences in MNEs affected by the AD-CVDs implemented by the US on the import of solar panels from China in 2012. We analyze how they adapt to this changing environment focusing on the financial effects, the

strategic responses regarding using existing resources such as labor and industrial capacity, and the establishment of new subsidiaries.

Rather than focusing on the response of firms targeted by the AD-CVDs as if they were stand-alone, which is usual in this literature, we identify those that are part of larger corporate families and show how the whole structure reacts to an earnings shock to one of their members. In a similar approach to the literature that debates how business groups respond to industry-specific shocks, our framework allows us to test the effect on the whole MNE and examine its strategic response.

We develop a difference-in-differences design leveraging specific characteristics of this policy which targets companies in the same industry with two different rates. The US anti-dumping law defines China as a non-market economy. This legal framework assumes that all Chinese firms are under government control unless they prove otherwise. Those that show government independence receive a specific anti-dumping duty rate, while all others in the same industry are granted a general rate, greater than the specific.

The analysis of the export activity by the two groups of firms shows that the larger exporters are those granted the specific rate. Thus, even though the general rate is the largest, it operates as a non-binding constraint due to the lack of relevant export activity by firms receiving it. The different rates reflect the differential exposure to the US trade policy, with firms receiving the specific - lower - rate being the most exposed (Montti (2024)).

Using this variation given by the policy's discriminatory nature, we compare changes in several outcomes of interest before and after the policy by MNEs that have within their corporate structure a targeted firm, granted a specific rate, relative to MNEs that have within their corporate structure non-targeted firms, assigned the general rate.

We rely on the Directory of Corporate Affiliations (DCA) database and identify multi-national enterprises that, within their structure, have firms targeted by the 2012 US AD-CVDs. Our descriptive data analysis and statistical results show this is a heterogeneous group. To address the internal sources of variation, we estimate the effects on the whole sample and different subsamples defined by MNE characteristics like availability of financial data and number of employees.

Our empirical findings show that targeted MNEs experience a reduction in net income and return on assets the year the policy is implemented. Following this negative shock, they develop several strategic responses. They restructure their domestic units by reducing the number of employees in Chinese subsidiaries. They increase the regional dispersion, having more subsidiaries in Asia, especially in other Chinese administrative regions. Finally, they diversify their industrial scope, increasing the number of industry activities developed by all firms in the corporate family. Our analysis of heterogeneous effects shows that companies with less than 100,000 employees are more affected by this external shock and that those in the financial subsample are more capable of implementing an industry diversification strategy.

Our results provide three insights into the IB literature of multinational enterprises facing tensions such as a trade war. First, we find that MNEs are sensitive to industry-specific shocks that impact one firm in the corporate family. Second, US protectionism hurts Chinese MNEs only in the short run as negative financial results disappear after one year. Third, we contribute to analyzing managerial decisions in an unstable international context that hinders globalization by showing that these are dynamic corporations that adapt rapidly.

Our empirical contribution provides an identification strategy that allows us to find the causal effects of these policies on MNEs' finances, structure, and geographical and industrial scope. We make a descriptive contribution showing that in Chinese MNEs that develop a large set of activities, the data shows great variation and outliers that require careful management for empirical analysis. Further, we detail a case study for the renewable energy sector, contributing to a better understanding of how Chinese multinationals in a key industry operate in the global economy and react to US unilateral changes in trade policy.

The paper is organized as follows: In section 2 we develop our conceptual framework, in section 3 we describe our dataset and the variables we use in our estimations. In section 4 we explain our model and estimation method, and in section 5 our findings. In section 6 we discuss implications for MNEs' managerial decisions. Finally, in section 7 we conclude and present our study's limitations and lines for future research.

2 MNE Reconfiguration as a Response to AD-CVDs

Building on the proposal by Meyer et al. (2023) for the study of firms facing sanctions, we develop a framework in which MNEs' international changes come from the World Trade Organization-supported AD-CVDs, as suggested in Peng et al. (2008). We complement this institutional-based view of IB theory with the resource-based view (Meyer et al. (2009)).

We use this integrated framework to analyze how changes in bilateral trade conditions have unintended consequences on the internal aspects of Chinese MNEs affected by US protectionism. We focus on how they recover from a negative financial shock adapting to a changing environment by reorganizing their resources, and geographic and industrial scope.

The institution-based view of international business asks how institutions impact firm strategy and performance (Peng et al. (2008)). Recent developments in the global economy, such as the rise of protectionism and geopolitical tensions, have prompted IB theorists to suggest that the institutional view needs to adapt to be able to explain this new reality (Luo (2023), Luo and Van Assche (2023), Meyer et al. (2023)). However, tensions and uncertainties also arise under the global institutions governed by the World Trade Organization's rules, such as anti-dumping and countervailing duties.

The Anti-Dumping Agreement (Agreement on Implementation of Article VI of the GATT 1994) defines dumping as "the introduction of a product into the commerce of another country at less than its normal value" (World Trade Organization). The Agreement on Subsidies and Countervailing Measures allows countries to charge a countervailing duty when they find that subsidized imports are hurting domestic producers (World Trade Organization).[1] Because both mechanisms aim at specific products and exporters from a particular country they make for an interesting setting to analyze the differential effects of international policy changes.

AD-CVDs target specific firms in a particular industry, many of which are not standalone but part of a larger corporate structure such as a business group. From a resource-based view, foreign trade and investment policies impact the diversification and organization of business groups in emerging economies. In particular, diversification facilitates access and the combination of domestic and foreign resources such as inputs, processes, and market

---

[1]See more information for AD and CVD.

4

access (Guillén (2000)).

An earnings shock to one firm can generate trickle-down effects for others in the corporate family (Bertrand et al. (2002), Siegel and Choudhury (2012)). Due to the AD-CVDs' discriminatory nature, we can assess how a trade policy change affecting one firm impacts the whole corporate structure.

Multinational enterprises must make critical strategic decisions regarding their resources and operations when faced with a changing institutional context. These include exploiting loopholes in the regime or relocating operations to third countries and have short and long-term intended and unintended consequences for the organization (Meyer et al. (2023)). Many IB theories focus on the ownership, exploitation, and acquisition of resources to explain MNEs' internationalization strategies (Dunning (1980)). We build on this resource-based view by focusing on how multinationals reconfigure their structure and geographic scope across locations when AD-CVDs disrupt the external environment. Using this policy change to examine institutional transitions allows us to have a country and industry-specific focus.

Motivated by the challenges posed by a negative shift in bilateral trade policy, MNEs can move away from the targeted country into trade-neutral zones, increasing the geographic scope of their organizational units. This behavior has been described as "friend-shoring" in the current context of deglobalization of international trade policies (Hsu et al. (2022)). Previous work has shown that even in a context of growing globalization, the largest MNEs tend to have a home region orientation (Rugman and Verbeke (2004), Banalieva and Dhanaraj (2013)). A widely accepted explanation for this phenomenon is that distance, be it cultural, administrative, geographic, or economic, increases costs and thus refrains multinationals from engaging in international trade, investment, and business with countries far away from their home market (Ghemawat (2001), Hofstede (1994)).

Strategies for alleviating negative impacts induced by trade restrictions involve production-switching, which implies moving production to countries unaffected by the barriers, or market-switching, which entails selling products to alternative countries (Gereffi et al. (2021)). Due to the size of their economy, Chinese companies can even move away from foreign markets into their domestic economy to avoid trade barriers. Firms can also leverage their resources and diversify their industrial activities to avoid dependence on the harmed

5

industry.

MNE responses depend on managerial decisions and are possible due to context-specific capabilities (Meyer et al. (2009)). Strategic and organizational flexibility allows firms to compete and adapt in volatile environments, especially in emerging economies (Witt (2019), Meyer et al. (2023)). This adaptive managerial approach is key to firms overcoming negative external shocks and not losing relevance in the international markets, even within a seemingly stable WTO-ruled system.

Changes in external conditions directly affect MNEs' operations and require specific strategies. Wenzel et al. (2021) find four strategies firms implement when responding to a crisis. Retrenchment, which implies reducing costs, assets, and product lines, among others, and has the potential of narrowing the scope of the firm's business activity. In contrast, a persevering strategy aims to maintain the firm's activity after a crisis. Another approach is innovating, which they define as realizing strategic renewal in a crisis response. Strategic renewal, as defined by Agarwa and Helfat (2009), can involve continuing incremental changes and discontinuous transformations and may include widening the scope of the business. Finally, an exit strategy is discontinuing a firm's business activities after a crisis.

3 Data & Variables

In this section, we describe our dataset and the construction of the several variables we use in our empirical analysis.

3.1 Dataset

Our data comes from the LexisNexis' Directory of Corporate Affiliates (DCA) and consists of Chinese MNEs from 2010 to 2015. This period allows us to have two years before the AD-CVDs are in place, and observe possible mid-term effects after their implementation.

The DCA provides corporate affiliations on global parent companies, affiliates, subsidiaries, and divisions. It traces corporate families to the eighth linkage level. This allows

6

us to capture the full chain of ownership affiliations, defining the headquarters as the ultimate parent. For non-US-based companies to be included in this dataset, they have to demonstrate revenues above $10 million.

The dataset includes information on corporate identity, such as company name. We use this to identify the Chinese firms targeted by the 2012 AD-CDVs on solar panels imposed by the US that have foreign direct investment announcements in the Financial Times' fDi markets dataset. The list of targeted company names comes from the determination for the anti-dumping duty order (United States Department of Commerce (2012)). We refer to these as "solar firms" to differentiate them from the corporate family they comprise. We define the variable "treated headquarters" which equals 1 for the ultimate parent of an MNE that has within their structure a firm in the targeted list by the USDOC. This is our main unit of analysis.

The control group for our difference-in-differences design comes from identifying firms that make foreign direct investment announcements during the analysis period and operate in the same economic activities as the targeted "solar firms". We classify them according to cluster, industry, sub-sector, and industry activity classification in the fDi markets dataset. This yields a control group with firms that the Federal Register does not list but is as similar as possible to the targeted ones regarding industry and FDI activity. In the DCA dataset, we identify the whole corporate family of these non-targeted firms. The variable "treated headquarters" equals zero for the ultimate parent of an MNE with a non-targeted firm within their structure. These are the non-targeted MNEs.

We use foreign direct investment as our outcome variable to classify the two groups to identify Chinese multinational enterprises with an active international market presence. Since firms' export activity directly impacts their treatment assignment (larger exporters receive the specific anti-dumping duty rate), we focus on FDI which reflects international activity and is not endogenous to the treatment assignment.

From the descriptive data provided by the DCA, we use the number of employees at the headquarters and subsidiary level, and primary industries indicated by Standard Industry Codes (SIC). We also take advantage of the financial and location information as described in section 3.

We end up with a balanced panel of 28 Chinese MNEs, 17 targeted and 11 non-targeted, for the six years. Panel A of Table 2 shows the means test for the differences in the dependent variables during the pre-policy period. There are no statistically significant differences in the number of subsidiaries in Asia and the number of industries, it does show the two groups are different in their average number of employees in China at the 10% significance level. Even though this does not substitute for the parallel trends assumption, it reflects the balance of the two groups before the policy.

3.2 Descriptive Analysis

A key feature of this dataset is the heterogeneity in the value of the observations. Since we analyze the effects that AD-CVDs on solar firms have on the whole MNE there is variation in our main variables of interest, defined at the headquarters level. We address this by performing our empirical analysis for the full headquarters sample and two subsamples.

Table 1 depicts the summary statistics of our relevant variables. In Panel A we show the values for the full sample at the headquarters level. In Panel B we restrict the observations to those who are part of the financial subsample, while in Panel C we summarize it for the sample restricted to MNEs with less than 100,000 employees. In Table A6 in the Appendix, we show the summary statistics for the full sample by year, reflecting the evolution of these variables through time.

Our first subsample is restricted to firms with financial information available in our dataset, this is the "financial" subsample. The rationale behind this choice is that MNEs that provide information for their financial indicators are mostly publicly traded and share this data due to regulation requirements. Thus, these firms have specific characteristics that differentiate them from those without this information. This subsample has 11 MNEs, 8 targeted and 3 non-targeted.

Panel B of Table 2 shows the means test for the difference in the dependent variables during the pre-policy period for this subsample. There are no statistically significant differences in the financial results, the number of subsidiaries in Asia, and the number of industries; the two groups differ in their average number of employees in China at the 5% significance level. Despite these two groups being different in size, they are balanced before

the policy in almost all outcome variables. Importantly, the difference-in-differences design assumes that the differences between the two groups would have remained unchanged without the policy.

The second subsample is defined by the number of employees at the headquarters level. It comprises firms that before the policy, during 2010 and 2011, had less than 100,000 employees. This number represents approximately the mean plus one standard deviation of employees. This subsample has 20 MNEs, 14 targeted and 6 non-targeted MNEs. Panel C of Table 2 shows that these two groups do not have statistically significant differences in the mean outcome variables in the pre-policy period.

To further describe our data, in Figure 1 we present the scatter plots by year for all the variables, differentiating by targeted and non-targeted MNE. This visualization provides more evidence of the intrinsic heterogeneity of the sample and the variation in the mean values of our variables of interest.

The heterogeneous characteristic of our study object, Chinese MNEs with solar firms within their structure, impacts our analysis and estimations. Our empirical approach explained in detail in section 4 captures outliers and other specific characteristics with MNE fixed effects. The intrinsic variation in our dataset, especially toward the end of our analysis period, impacts the standard errors of our estimations, though not the point estimates.

3.3 Variables

In this subsection, we describe the construction of the several dependent variables we use to evaluate the impact of AD-CVDs in Chinese MNEs. In all cases, the independent variables are the interaction of the treatment and the year.

3.3.1 Dependent Variables

First, we use a set of dependent variables to analyze the effects of the AD-CVDs on targeted MNEs' financial performance. For this, we rely on two financial indicators: net income (in million dollars) and return on assets. These variables are measured at the headquarters level. The net income variable is provided in our dataset. It reflects a company's revenues

minus its expenses, as it is a useful measure for assessing its profitability. We construct the variable ROA (Return On Assets) as the net income ratio over assets. This performance measure compares a company's profit with the capital invested in assets.

We investigate the effects on the structure of targeted MNEs by focusing on their level of employment. We rely on the number of employees at the headquarters level provided by our dataset. Then, we focus on their domestic operations and create the variable "Number of Employees in Chinese Subsidiaries". This is defined as the sum of the employees in companies located in mainland China for targeted or non-targeted MNEs.

To account for the regional dispersion of firms, we create a variable that counts the yearly number of foreign subsidiaries in Asia. This leaves out mainland China but includes Hong Kong, Macau, and the rest of the Asian countries in the sample.[2]

We consider an alternative measure for Chinese foreign subsidiaries in Asia. We create a variable that counts all Asian subsidiaries except the People's Republic of China's administrative divisions. We call this variable "Asia not PRC" and it excludes mainland China, Hong Kong, and Macau.

Finally, we focus on the firms' industrial scope. The dataset provides Standard Industrial Classification (SIC) codes at the 4-digit level by year for each unit in the corporate family. The maximum number of SIC codes observed in the data for the same company level is nine. This means a subsidiary can have activities in nine different industries in one year. We construct the variable "Number of SIC Codes" at the headquarters level by counting all the different SIC codes by all the companies in the corporate family.

3.3.2   Control Variables

To isolate the effect of the policy we rely on two-way fixed effects: unit and time. MNE-level fixed effects capture time-invariant characteristics of our units of analysis. The year-fixed effects control for time-specific variations common to all units (Angrist and Pischke (2008)).

Our main explanatory variables come from the interaction of targeted headquarters and

---

[2]All Asian countries in the sample are China, China (Hong Kong), Japan, Singapore, India, Taiwan, China (Macau), Philippines, United Arab Emirates, Malaysia, Pakistan, Saudi Arabia, Indonesia, Jordan, Thailand, Uzbekistan, Vietnam.

year. This accounts for the differential effects before and after the policy for our group of interest with respect to our control group.

4 Model and Estimation Method

To evaluate the impact of the AD-CVDs on targeted Chinese MNEs, we develop a difference-in-differences design exploiting the fact that the policy targets firms in the same industry with different rates.

The AD-CVD orders result from investigations by the US Department of Commerce to determine the existence of dumping and subsidies, and by the US International Trade Commission to determine if subject imports materially injure the domestic industry. The final determination provides a list of targeted companies that are granted a specific anti-dumping duty rate, this gives us our cross-sectional variation. The treatment is given by the differential AD-CVD rates the US imposed in 2012 on the imports of Chinese solar cells and modules.

The design has specific characteristics given by the US anti-dumping law defining China as a non-market economy (Section 771(18) of the Tariff Act of 1930). The US Department of Commerce assumes that all Chinese firms are under government control unless they prove otherwise, in which case they are granted a specific anti-dumping duty rate. All other Chinese firms in the industry are assigned a general - larger - rate (PRC-wide).

The analysis of the export activity by the two groups of firms shows that the larger exporters are those granted the specific rate. Thus, even though the PRC-wide rate is the largest, it operates as a non-binding constraint due to the lack of relevant export activity by firms receiving it. The different rates reflect the differential exposure to the US trade policy, with firms receiving the specific - lower - rate being the most exposed (Montti (2024)). Our model is expressed at the level of MNE i and year t as follows:

$$Y_{it} = \sum_{s=2009}^{2015} \delta_t(D_{it} \times 1[t = s]) + \gamma_i + \lambda_t + \epsilon_{it}. \tag{1}$$

Where Y_{it} represents our dependent variables of interest depending on the effect we are assessing, as described in section 3.3; D is a binary indicator for targeted MNE; γ_i are MNE fixed effects; λ_t are year fixed effects, and ϵ_{it} is the error term. Robust standard errors are clustered at the MNE level. We use OLS to estimate our main coefficient of interest δ_t.

The key assumption in a difference-in-differences design is the existence of parallel trends, which implies that the pre-treatment trajectories for treated and control groups are parallel (Cunningham (2021)). We present support for this assumption in our framework in the event study plots in Figures A1. We show the results for the subsample of MNEs with less than 100,000 employees since it captures statistically significant effects after the policy for all our variables of interest. The bars in the chart display the estimated coefficients at 90 and 95 % confidence intervals.

The event studies show that the estimated coefficients have no statistically significant effects in the years before 2012. This reflects that the two groups' dynamics are comparable in the pre-treatment period for all our outcomes of interest, as necessary for the validity of the design.

5   Findings: MNE Shock and Reconfiguration

In this section, we show and discuss how the 2012 US AD-CVDs on solar panels resulted in a negative shock and a reconfiguration by Chinese multinational enterprises with solar firms within their structure.

Our main explanatory variables are the interaction of year and targeted MNE. We use 2011 as the baseline as it is the last year without the effects of the policy. As expected for a valid difference-in-differences design, we do not obtain statistically significant effects in the pre-policy period (before 2012). All our estimations include MNE and year-fixed effects. At the bottom of each result table, we display the mean and standard deviation of the respective dependent variable for the whole period.

Despite some of our results being statistically significant at the 10% level, we still support these findings as statistically meaningful since many are close to a p-value of 0.050 and the point estimates are robust throughout our specifications. The main reason behind

this lower statistical significance is the variation and magnitude of the standard errors due to the heterogeneity in our sample that we address throughout our analysis.

5.1 Financial Results

In Table 3, we present the estimation results for the financial variables net income and return on assets (ROA). In the first two columns, we use the financial subsample, in columns three and four, the subsample of MNEs with less than 100,000 employees. Our estimations only include MNEs with complete information for this variable during the period.

In column 1, we present the results for the net income variable expressed in million dollars. The coefficients of the interaction between treated headquarters and year only show statistically significant effects in 2012. The point estimate indicates that targeted MNEs decrease their net income by 301.2 million dollars (p-value is 0.067) compared to the non-targeted group. In this specification, the mean net income for the period 2010-2015 is about 39 with a standard deviation of 394 million dollars. This reflects the economic significance of the effect we find as well as the large heterogeneity of the observations.

In column 2, the estimations for ROA, which is the net income normalized by assets and is measured as a percentage, have no statistically significant results.

Column 3 shows the estimated effects on net income for MNEs with less than 100,000 employees. In this case, we also find that the interaction coefficients between treated headquarters and year show statistically significant effects in 2012. The coefficient of -348.4 million dollars (p-value is 0.050) reflects that the loss for the targeted MNEs in this subsample is larger than for those in the financial one. Furthermore, this subsample has a smaller mean of the dependent variable, 26.67 million dollars, and a larger standard deviation, 410.7, than firms in the previous subgroup. Thus, even though these companies are more similar in terms of their number of employees, they are more heterogeneous in their financial performance.

Meanwhile, in column 4, the impact on the return on assets is negative and significant in 2012. The point estimate of -0.089 (p-value is 0.037) indicates that targeted MNEs experience a decrease in the return on assets of nearly 0.09 percentage points compared to

13

the non-targeted group. This is larger than the mean of -0.006.

Overall, we see that the anti-dumping and countervailing duties implemented by the US harm the net income and return on assets of targeted Chinese MNEs the year the policy is implemented. Multinationals with less than 100,000 employees in their headquarters experience larger negative shocks compared to those in the financial subsample, and have a greater dispersion in the observed variables. There are no effects in the rest of the period, showing that this is a short-term negative shock.

5.2   Domestic Restructure

We continue our analysis by focusing on the effects on the number of employees. In Table A1 in the Appendix we show that the AD-CVDs do not have statistically significant effects on employment at the headquarters level. We shift our analysis to the domestic companies and find negative effects.

Table 4 displays the results for the number of employees in Chinese subsidiaries. In the first column, the estimations are performed in the whole sample, in the second, for the subsample of MNEs with available financial data, and in the last one for those with less than 100,000 employees. The estimations only include MNEs with complete information for this variable during the period.

In column 1, there is a negative and statistically significant coefficient of the interaction of treated headquarters and the year 2013. The point estimate of -823.3 (p-value is 0.050) shows a reduction in the number of employees for targeted MNEs with respect to non-targeted. The average number of employees in Chinese subsidiaries in this specification is approximately 41,500 with a standard deviation of more than 100,000. Therefore, our point estimates do not represent a large loss in employment for the whole sample.

In column 2, the statistically significant coefficient for the financial subsample reflects that in 2013 targeted MNEs had a loss of 1042.2 employees (p-value is 0.073) compared to non-targeted. This is a smaller and more homogeneous subsample than that reflected in column 1. The average number of employees is approximately 6,500 and the standard deviation is 9,700. Hence, the point estimate indicates that this group experiences a more

14

severe impact than the previous one.

In column 3 the estimation results for MNEs with less than 100,000 employees show a statistically significant negative coefficient for the interaction of treated headquarters and 2013. The point estimate reflects a loss by the targeted group of about 1067 employees (p-value is 0.046) with respect to the non-targeted. This subsample has an average of 8,190 employees with a 9,898 standard deviation. Thus, on average, these MNEs employ more workers than those in the financial subsample, with a similar dispersion.

These results show that after the negative financial shock experienced in 2012, as the AD-CVDs were implemented, affected MNEs did not reduce the number of employees at the headquarters level. Instead, they resorted to their domestic companies to recompose their financial performance. This is the case across our different specifications, with smaller MNEs suffering larger employment losses.

5.3   Regional Dispersion

Our next analysis looks at the internationalization strategy of the affected MNEs. As we discuss in section 2, MNEs facing an international changing environment may seek to expand their operations into new countries to take advantage of the available resources. In the case we are analyzing, where China is a direct target of a US trade policy, finding new locations for subsidiaries implies a strategy of moving into a trade-neutral zone.

However, not all new locations present the same desirable characteristics. Familiar locations are preferred when MNEs face financial losses and require a rapid recovery from a negative shock, as in this case. Following our discussion in section 2, we expect them to focus on nearby countries, as being geographically and culturally close is a relevant driver of location choice.

In Table 5 we present the results of our regional dispersion analysis. As we describe in section 3.3, the dependent variable counts the yearly number of foreign subsidiaries in Asia. This leaves out mainland China but includes Hong Kong, Macau, and other Asian countries in the sample. For a more comprehensive description of our regional dispersion measurement and a better interpretation of the results, in Table A2 in the Appendix we

show the frequency of the different values taken by this variable before and after 2012.

Column 1 shows the estimated coefficients for the full sample, with positive statistically significant results for the interaction of treated headquarters and the years 2012 and 2013. The coefficient for the year the policy is implemented is 0.176 (p-value is 0.080) while the following year is 0.235 (p-value is 0.038). Comparing both point estimates with the sample mean of 0.589 implies a 30% increase in the number of Asian subsidiaries in 2012 and almost 40% in 2013 for targeted MNEs with respect to non-targeted.

The estimations for the financial subsample in column 2 show a point estimate of 0.375 (p-value 0.084) in the interaction coefficients for 2012, and 0.500 (p-value 0.033) for 2013. The sample mean in this case is 1.015, almost twice the whole sample, indicating these MNEs have, on average, more subsidiaries in Asia. The results show that the difference in the regional dispersion between targeted and non-targeted MNES is 37% the first year of the policy effect and 50% the following year.

Finally column 3, with results for the subsample with less than 100,000 employees, also has positive and statistically significant coefficients for the interaction of treated headquarters with the years 2012 and 2013. The point estimates of 0.214 (p-value is 0.084) and 0.286 (p-value is 0.040) compared with the mean of 0.592 indicate a rise in regional dispersion variables of 36% and 48% respectively by targeted MNEs with respect to non-targeted.

This illustrates that all MNEs in our sample develop a regionalization strategy as a response to the negative shock created by unilateral changes in bilateral trade policy. The magnitudes are different, with firms in the financial subsample taking more advantage of this approach. In addition, we find this effect concomitantly with the policy implementation in 2012 but is larger in magnitude and statistical significance the following year.

In Table A3 in the Appendix, we present the estimations for an alternative measure of regional dispersion considering the ratio of Asian foreign subsidiaries over all subsidiaries outside China. This specification only yields statistically significant results for the financial subsample, in column 2, for 2012 and 2013. The year the policy is implemented, the point estimate is 0.122 (p-value 0.067), and the following year the point estimate is 0.125 (p-value 0.060); both cases represent an increase of about 74% compared to the sample mean of 0.167. This contributes to showing a consistent pattern from our previous results.

16

Our alternative definition for Chinese foreign subsidiaries in Asia excludes Hong Kong and Macau, in addition to mainland China, as they are administrative divisions of the People's Republic of China. The estimation results are presented in Table 6 and reflect smaller effects than our previous specification.

In column 1, the estimations for the whole sample show statistical significance for the interaction coefficient of treated headquarters and the year 2013. The point estimate of 0.176 (p-value is 0.080) compared to the sample mean of 0.387 represents a 45% increase in this variable for targeted MNEs with respect to the non-targeted.

Column 2 presents the estimations for the financial subsample. A statistically significant coefficient of 0.375 (p-value is 0.084) in the interaction coefficient of treated headquarters and 2013 indicates a 52.6% increase in regional dispersion outside of the PRC for the targeted group compared to the non-targeted.

We do not show results for the subsample of MNEs with less than 100,000 employees as there are not enough observations to perform the estimations for the whole period.

This alternative definition of Asian foreign subsidiaries does not have effects in 2012, the year of the policy implementation, as it does in the previous analysis including Hong Kong and Macau. In addition, the results for 2013 have less statistical power than the previous definition.

This reflects that an important part of the regionalization strategy by targeted MNEs includes other Chinese regions. As we discuss in section 6, these results are consistent with the literature that finds a negative relationship between cultural distance and firms' international diversification, in particular, as a determinant of Chinese outward FDI. [3]

In Table A4 in the Appendix, an alternative measure of regional dispersion outside the PRC considers the share of Asian foreign subsidiaries, not PRC over all subsidiaries outside China, Hong Kong, and Macau. This specification only yields statistically significant results for the financial subsample, in column 2, for 2013. The year after the policy, the point estimate of 0.113 (p-value 0.089) represents an increase of about 90% compared to the sample mean of 0.167. Even though the statistical power of this specification measured

---

[3]As an example, Chinese outward FDI to Hong Kong represented 49% of all outward FDI from China in 2012 and 58% in 2022 (CDIS, IMF).

through the R^2 is low, it shows a consistent pattern from our previous estimations.

5.4 Industry Diversification

Lastly, we turn our attention to industrial activities to investigate if targeted MNEs implement a scope diversification strategy. For constructing the dependent variable, as described in section 3.3, we count all the different SIC codes by all the companies in the corporate family.

For a more comprehensive description of our industry diversification measurement and a better interpretation of the results, in Table A5 in the Appendix we show the frequency of the different values taken by this variable before and after 2012.

Column 1 of Table 7 presents the estimations for the full sample, with no statistically significant effects. The average number of SIC codes in this specification is 4.708 with a standard deviation of 5.103.

In column 2 we see the results for the financial subsample. We find a statistically significant and positive coefficient for the interaction of treated headquarters and the year 2012, with a point estimate of 3.000 (p-value is 0.022). Comparing it with the sample average number of SIC codes, which is 5.970, this represents a 50% increase for the targeted group compared to the non-targeted. The following year, the coefficient is 3.375 (p-value is 0.056) and represents an increase by targeted MNEs of 57% with respect to the non-targeted.

In column 3, we present the estimations for the subsample of MNEs with less than 100,000 employees. We find a positive and statistically significant coefficient in the interaction of treated headquarters and the year 2013. The point estimate of 2.190 (p-value is 0.073) implies that the differential increase in industry diversification by targeted MNEs is 46%.

Our findings show heterogeneous results for the industry diversification strategy. The MNEs that take more advantage of it are those in the financial subsample, which make public their financial data possibly due to being traded in international financial markets. Thus, their organizational structure and managerial capabilities have characteristics that

make them more suited than other companies to develop this strategy.

6   Discussion: Implications for MNEs

Our results uncover interesting strategic responses. Unfortunately, in some cases, the sample size and heterogeneity yield a statistical significance above the 5% level. However, the consistency of the effects on our dependent variables across the different subsamples signals we are uncovering a pattern in the strategic responses.

We find evidence of retrenchment and innovation in terms of the strategies identified by Wenzel et al. (2021). The first one is cost reduction when we show a decrease in the number of employees in China. However, it is not general to the whole MNE but specific to the domestic companies. We see innovation as a strategic renewal when firms expand their activities toward other industrial sectors, widening their business scope as a response to the changing institutional environment.

Our findings align with the literature claiming that in the absence of a pro-globalization social environment - skepticism of globalization - multinational enterprises' strategies may counteract regulatory restrictions (Cuervo-Cazurra et al. (2020)). We show that despite facing an increase in trade barriers, Chinese MNEs do not diminish their international presence. Rather, they re-focus on the home region by increasing the number of subsidiaries in Asia. Thus, MNEs can alter their organizational structure to facilitate strategic responses that avoid de-globalization measures.

The regionalization strategy by these companies mostly focuses on other Chinese regions. These results align with the literature on cultural proximity as a determinant of Chinese outward FDI and indicate that reduced transaction costs, network effects, and relational assets are important for Chinese investors (Buckley et al. (2007)). Similarly, previous work shows a negative relationship between cultural distance and international diversification in high-technology industries. Since these firms already face a higher risk than others due to their large technology investments, they minimize the potential risks of cultural differences by expanding into markets with familiar cultures (Tihanyi et al. (2005)).

We provide evidence that corporate families are affected by industry-specific shocks to

19

one of the member firms. The impact on one of the members leads to strategic reshuffling inside the MNE.

These results highlight it is key for MNEs to show capabilities that allow them to be attuned to geopolitical changes, facing critical decisions driven by institution-based and resource-based motivations. Different strategies must be timely implemented for multinational enterprises to successfully navigate the unintended consequences of the changing conditions in international trade policy, investment, and business.

7   Conclusion

Our paper focuses on anti-dumping and countervailing duties to study the unintended consequences of protectionist policies on targeted MNEs. These administered forms of protection represent international changes with the potential to harm their operations, use, and development of resources.

We analyze the AD-CVDs implemented by the US on the import of solar panels from China in 2012. We use the DCA database and a difference-in-differences design to document how targeted Chinese MNEs are affected by the policy change, and the strategies they develop as a reaction to the negative shock.

The data analysis shows the heterogeneity of the Chinese MNEs operating in the global economy that have companies in the solar energy sector. This leads us to perform our econometric analysis in different subsamples.

Our policy evaluation focuses on several areas of MNEs' operations and strategies: financial results, domestic restructuring, regional dispersion, and industry diversification.

We find that the 2012 US anti-dumping and countervailing duties harm the net income and return on assets of targeted Chinese MNEs the year they are imposed, with MNEs with less than 100,000 employees experiencing larger negative results. After the negative financial shock experienced in 2012, targeted MNEs did not reduce the number of employees at the headquarters level. Instead, they resorted to their domestic companies to recompose their financial performance, with smaller MNEs suffering larger employment losses.

We document that all targeted MNEs in our sample develop a regionalization strategy as a response to the negative shock created by unilateral changes in bilateral trade policy. These are differences in magnitudes, with firms in the financial subsample taking more advantage of this approach. In addition, we find this starts in 2012, concomitantly with the policy, but is larger in magnitude and statistical significance the following year.

We consider an alternative definition for foreign Chinese subsidiaries in Asia that excludes Hong Kong and Macau and find smaller effects than in the previous case. We explain these results within the framework of cultural distance's impact on international business strategy and management. In particular for firms in high technology industries, expanding into markets with similar cultural backgrounds minimizes the already high potential risks of international diversification.

Lastly, we shift our focus to industry diversification and find it is a strategy that not all can implement. The MNEs that take more advantage of this are those in the financial subsample, which share a specific set of organizational structure and managerial capabilities.

Our results document that US protectionism harms Chinese MNEs in the short run. They quickly respond by developing strategies to avoid being undermined financially and in their international market preeminence. In addition, we show that for MNEs to take full advantage of this set of strategies they require capabilities to adapt to a changing external environment.

7.1   Limitations and Future Research

Our study's limitations suggest future research directions. Firstly, due to data availability and consistency, we focus on a reduced number of Chinese MNEs. Therefore, our study faces issues in terms of generalizability. It would be interesting to find a complementary source of MNE-level information that could provide a wider characterization of the sector.

It would also be interesting to determine if our findings can be applied to MNEs from other home countries. Because the Chinese solar sector experienced a rapid increase in the years before 2012, it might be that there are industry and country-specific skills that allow them to develop this set of reconfiguration strategies.

Our study of AD-CVDs allows us to focus on country and industry-specific effects, future research could focus on how this has different effects on MNEs strategies than a generalized increase in tariffs, such as what happened in the US-China trade war.

Finally, the recent growth in the Chinese industry of Electric Vehicles (EV) presents an interesting parallel with the solar panel case. With China becoming the largest EV exporter in the world, both the US and the European Union have been explicit about the possibility of imposing anti-dumping duties on the import of Chinese EVs. Future research could use the solar panel experience to inform how implementing anti-dumping duties impacts the global provision of resources that promote a green-energy transition.

References

Agarwa, Rajshree and Constance E. Helfat, "Strategic Renewal of Organizations," 2009.

Angrist, Joshua D. and Jörn-Steffen Pischke, *Mostly Harmless Econometrics*, Princeton University Press, 2008.

Banalieva, Elitsa R and Charles Dhanaraj, "Home-region orientation in international expansion strategies," *Journal of International Business Studies*, February 2013, *44* (2), 89–116.

Bertrand, Marianne, Paras Mehta, and Sendhil Mullainathan, "Ferreting Out Tunneling: An Application to Indian Business Groups," *The Quarterly Journal of Economics*, 2002, *117* (1), 121–148. Publisher: Oxford University Press.

Buckley, Peter J., "The theory and empirics of the structural reshaping of globalization," *Journal of International Business Studies*, December 2020, *51* (9), 1580–1592.

Buckley, Peter J, L Jeremy Clegg, Adam R Cross, Xin Liu, Hinrich Voss, and Ping Zheng, "The determinants of Chinese outward foreign direct investment," *Journal of International Business Studies*, July 2007, *38* (4), 499–518.

Cuervo-Cazurra, Alvaro, Yves Doz, and Ajai Gaur, "Skepticism of globalization and global strategy: Increasing regulations and countervailing strategies," *Global Strategy Journal*, 2020, *10* (1), 3–31.

Cunningham, Scott, *Causal Inference: The Mixtape*, Yale University Press, 2021.

Dunning, John, "Toward an eclectic theory of international production: some empirical tests," *Journal of International Business Studies*, 1980, pp. 9–31.

Gereffi, Gary, Hyun-Chin Lim, and Joonkoo Lee, "Trade policies, firm strategies, and adaptive reconfigurations of global value chains," *Journal of International Business Policy*, December 2021, *4* (4), 506–522.

Ghemawat, Pankaj, "Distance Still Matters: The Hard Reality of Global Expansion," *Harvard Business Review*, September 2001.

Guillén, Mauro F., "Business Groups in Emerging Economies: A Resource-Based View," *The Academy of Management Journal*, 2000, *43* (3), 362–380.

Hofstede, Geert, "The business of international business is culture," *International Business Review*, March 1994, *3* (1), 1–14.

Hsu, Jonathan, Zhi Li, and Jing Wu, "Supply Chain Nearshoring in Response to Regional Value Content Requirements," October 2022.

Luo, Yadong, "Paradigm shift and theoretical implications for the era of global disorder," *Journal of International Business Studies*, December 2023.

___ **and Ari Van Assche**, "The rise of techno-geopolitical uncertainty: Implications of the United States CHIPS and Science Act," *Journal of International Business Studies*, October 2023, *54* (8), 1423–1440.

Meyer, Klaus E., Saul Estrin, Sumon Kumar Bhaumik, and Mike W. Peng, "Institutions, resources and entry strategies in emerging economies," *Strategic Management Journal*, 2009, pp. 61–80.

___ **, Tony Fang, Andrei Y. Panibratov, Mike W. Peng, and Ajai Gaur**, "International business under sanctions," *Journal of World Business*, February 2023, *58* (2), 101426.

Montti, A. Oriana, "Effects of Trade Barriers on Foreign Direct Investment: Evidence from Chinese Solar Panels," 2024.

Peng, Mike W, Denis Y L Wang, and Yi Jiang, "An institution-based view of international business strategy: a focus on emerging economies," *Journal of International Business Studies*, July 2008, *39* (5), 920–936.

Rugman, Alan M and Alain Verbeke, "A perspective on regional and global strategies of multinational enterprises," *Journal of International Business Studies*, January 2004, *35* (1), 3–18.

Siegel, Jordan and Prithwiraj Choudhury, "A Reexamination of Tunneling and Business Groups: New Data and New Methods," *Review of Financial Studies*, June 2012, *25* (6), 1763–1798.

Tihanyi, Laszlo, David A Griffith, and Craig J Russell, "The effect of cultural distance on entry mode choice, international diversification, and MNE performance: a meta-analysis," *Journal of International Business Studies*, May 2005, *36* (3), 270–283.

United States Department of Commerce, "Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled Into Modules, From the People's Republic of China: Amended Final Determination of Sales at Less Than Fair Value, and Antidumping Duty Order," Technical Report December 2012.

Wenzel, Matthias, Sarah Stanske, and Marvin B. Lieberman, "Strategic responses to crisis," *Strategic Management Journal*, February 2021, *42* (2).

Witt, Michael A., "De-globalization: Theories, predictions, and opportunities for international business research," *Journal of International Business Studies*, September 2019, *50* (7), 1053–1077.

Table 1. Summary Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Full sample = 28 MNEs					
Employees in China	102	34,138	92,582	0	390,254
Subsidiaries in Asia	168	0.59	1.42	0	11
Number of Industries	168	4.71	5.10	1	28
Financial subsample = 11 MNEs					
Net Income (million USD)	66	39	394	-1637	708
Return Over Assets	66	-0.004	0.12	-0.54	0.17
Employees in China	50	5,230	9,330	0	30,902
Subsidiaries in Asia	66	1	2	0	11
Number of Industries	66	6	7	1	28
<100,000 employees = 20 MNEs					
Net Income (million USD)	74	18	390	-1637	708
Return Over Assets	74	0.004	0.12	-0.54	0.17
Employees in China	75	7,207	9,655	0	30,902
Subsidiaries in Asia	120	1	2	0	11
Number of Industries	120	4.77	5.24	1	28

Figure 1. Variables' Scatter Plots by Year for Targeted and Non-Targeted MNEs
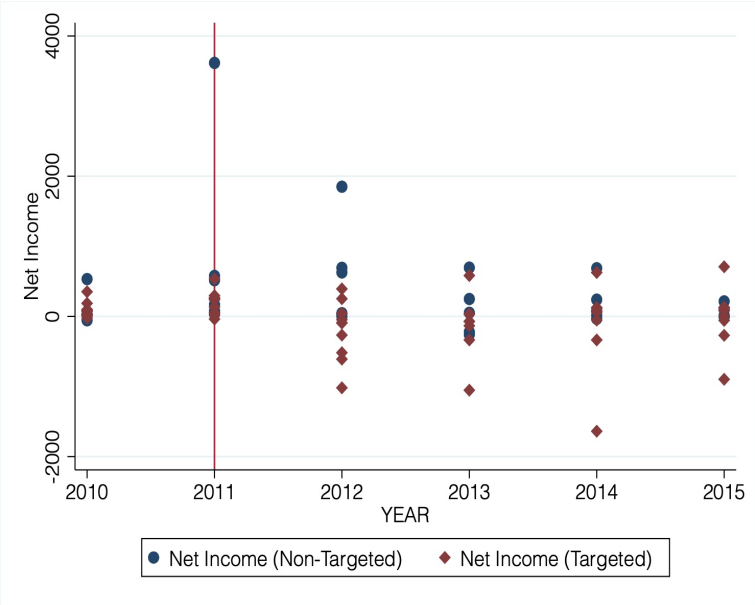
NOTE: This graph shows the yearly average net income or targeted and non-targeted MNEs.
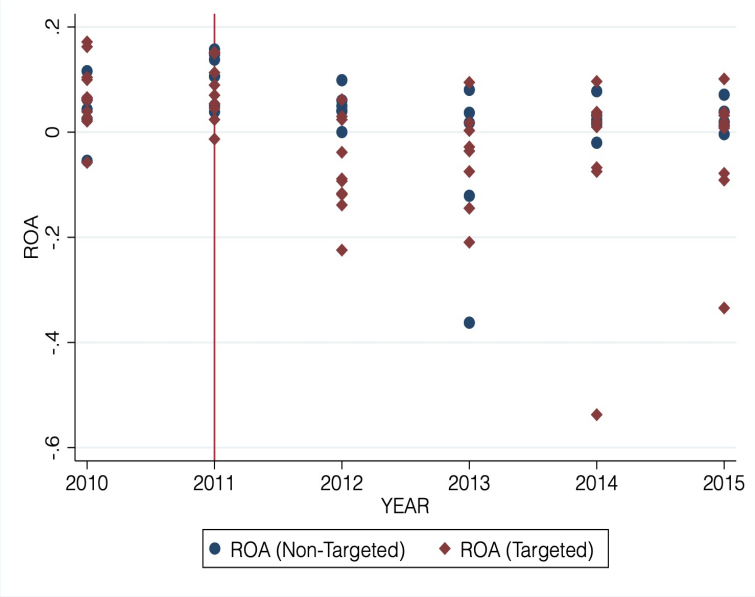
NOTE: This graph shows the yearly average ROA (return on assets) for targeted and non-targeted MNEs.

NOTE: This graph shows the yearly average number of employees in Chinese subsidiaries for targeted and non-targeted MNEs.
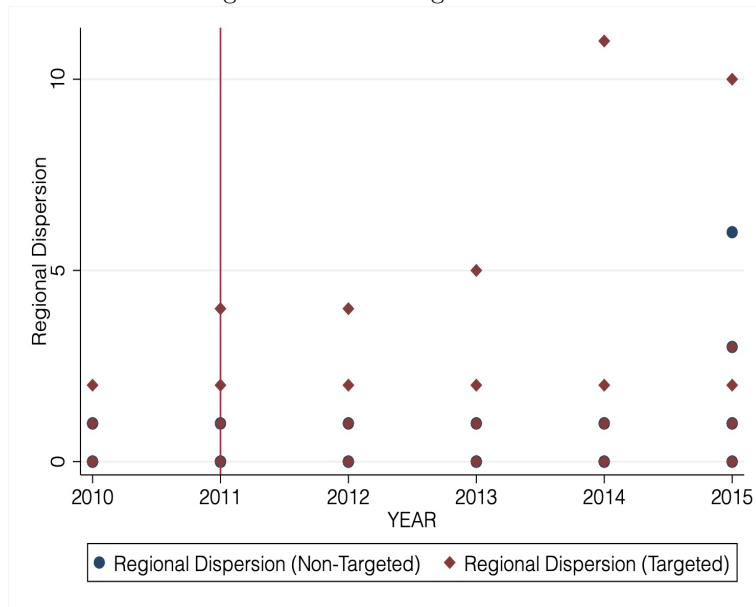
NOTE: This graph shows the regional dispersion variable for targeted and non-targeted MNEs measured by the yearly average number of Asian subsidiaries outside mainland China.

28
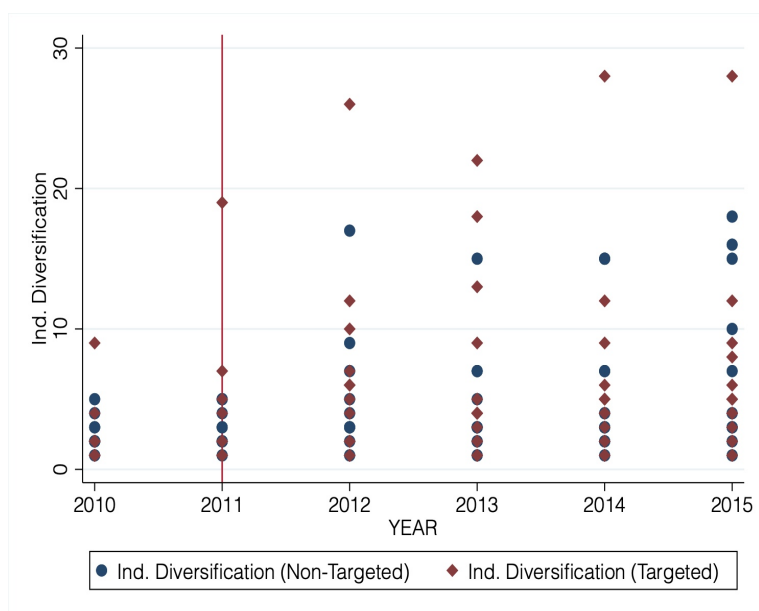
NOTE: This graph shows the industry diversification variable for targeted and non-targeted
MNEs measured by the yearly average number of SIC codes by all firms in the corporate family.

29

Table 2. Pre-Policy Means Test for Dependent Variables by Subsample

Panel A: Full Sample		Non-targeted	Targeted	Difference	t-stat
	obs.	14	14		
Employees in China	mean	76,187	5,812	70,375	1.91
	std. dev.	137,334	7,730		
	obs.	22	34		
Subsidiaries in Asia	mean	0.27	0.32	-0.05	0.34
	std. dev.	0.46	0.84		
	obs.	22	34		
Number of Industries	mean	2.68	2.71	-0.02	-0.03
	std. dev.	1.21	3.40		
Panel B: Financial Subsample					
	obs.	6	16		
Net Income	mean	219.28	164.97	54.31	0.60
	std. dev.	270.58	153.02		
	obs.	6	16		
ROA	mean	0.06	0.07	-0.01	-0.29
	std. dev.	0.06	0.06		
	obs.	6	6		
Employees in China	mean	12,585	1,908	10,677	1.98
	std. dev.	13,096	1,603		
	obs.	6	16		
Subsidiaries in Asia	mean	0.33	0.56		
	std. dev.	0.52	1.15		
	obs.	6	16		
Number of Industries	mean	3.67	3.63	0.04	0.02
	std. dev.	1.03	4.73		
Panel C: <100,000 employees					
	obs.	10	18		
Net Income	mean	148.77	142.30	6.47	0.09
	std. dev.	221.73	151.21		
	obs.	10	18		
ROA	mean	0.07	0.08	-0.01	-0.22
	std. dev.	0.06	0.06		
	obs.	10	12		
Employees in China	mean	8,611	6,781	1,830	0.45
	std. dev.	11,109	7,966		
	obs.	12	28		
Subsidiaries in Asia	mean	0.33	0.29	0.05	0.18
	std. dev.	0.49	0.85		
	obs.	12	28		
Number of Industries	mean	3.17	2.86	0.31	0.29
	std. dev.	1.11	3.59		

Table 3. Financial Results

	(1) Net Income	(2) ROA	(3) Net Income	(4) ROA
TargetedHQ*2010	-3.552	0.016	-9.706	0.010
	(70.08)	(0.069)	(74.75)	(0.071)
	[0.961]	[0.820]	[0.900]	[0.889]
TargetedHQ*2012	-301.2	-0.070	-348.4	-0.089
	(146.9)	(0.039)	(154.1)	(0.036)
	[0.067]	[0.105]	[0.050]	[0.037]
TargetedHQ*2013	-146.4	0.101	-164.6	0.085
	(228.3)	(0.130)	(249.4)	(0.132)
	[0.536]	[0.458]	[0.526]	[0.538]
TargetedHQ*2014	-298.3	-0.074	-329.9	-0.092
	(268.8)	(0.079)	(305.6)	(0.087)
	[0.293]	[0.376]	[0.308]	[0.317]
TargetedHQ*2015	39.16	-0.058	25.19	-0.073
	(220.5)	(0.059)	(241.4)	(0.063)
	[0.863]	[0.351]	[0.919]	[0.278]
Fixed Effects				
MNE	✓	✓	✓	✓
Year	✓	✓	✓	✓
Mean	38.99	-0.004	26.67	-0.006
Std_Dev	394.0	0.119	410.7	0.125
Sample	Financials		<100,000 emp.	
MNEs	11	11	10	10
Observations	66	66	60	60
R^2	0.232	0.405	0.245	0.430

Robust standard errors in parentheses. p values in brackets.

Table 4. Domestic Restructuring

	(1) Employees in China	(2) Employees in China	(3) Employees in China
TargetedHQ*2010	-1408.9 (1115.5) [0.229]	-573.2 (610.0) [0.384]	-1657.9 (1314.5) [0.236]
TargetedHQ*2012	-418.6 (576.3) [0.481]	-437.3 (1103.4) [0.706]	-459.0 (770.6) [0.565]
TargetedHQ*2013	-823.3 (381.5) [0.050]	-1042.2 (480.6) [0.073]	-1066.9 (468.7) [0.046]
TargetedHQ*2014	899.3 (1880.9) [0.641]	-1022.1 (765.0) [0.230]	942.4 (2260.5) [0.686]
TargetedHQ*2015	990.9 (1937.5) [0.618]	-887.5 (1184.2) [0.482]	1080.9 (2357.7) [0.656]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Mean	41,453	6,469	8,190
Std_Dev	100,615	9,749	9,898
Sample	Full	Financials	< 100,000 emp.
MNEs	14	7	11
Observations	84	42	66
R^2	0.168	0.184	0.198

Robust standard errors in parentheses. p values in brackets.

Table 5. Regional Dispersion

	(1) Subsidiaries in Asia	(2) Subsidiaries in Asia	(3) Subsidiaries in Asia
TargetedHQ*2010	-0.176	-0.375	-0.143
	(0.131)	(0.281)	(0.148)
	[0.188]	[0.211]	[0.345]
TargetedHQ*2012	0.176	0.375	0.214
	(0.097)	(0.195)	(0.118)
	[0.080]	[0.084]	[0.084]
TargetedHQ*2013	0.235	0.500	0.286
	(0.108)	(0.202)	(0.129)
	[0.038]	[0.033]	[0.040]
TargetedHQ*2014	0.406	0.917	0.548
	(0.437)	(0.948)	(0.538)
	[0.361]	[0.356]	[0.322]
TargetedHQ*2015	-0.294	0.792	0.690
	(0.692)	(0.826)	(0.498)
	[0.674]	[0.361]	[0.181]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Mean	0.589	1.015	0.592
Std_Dev	1.424	1.981	1.537
Sample	Full	Financials	$< 100,000$ emp.
MNEs	28	11	20
Observations	168	66	120
R^2	0.156	0.226	0.140

Robust standard errors in parentheses. p values in brackets

Table 6. Regional Dispersion - Asia not PRC

	(1) Subsidiaries in Asia not PRC	(2) Subsidiaries in Asia not PRC
TargetedHQ*2010	-0.059 (0.060) [0.335]	-0.125 (0.133) [0.371]
TargetedHQ*2012	0.118 (0.082) [0.163]	0.250 (0.175) [0.183]
TargetedHQ*2013	0.176 (0.097) [0.080]	0.375 (0.195) [0.084]
TargetedHQ*2014	0.439 (0.430) [0.317]	0.792 (0.963) [0.430]
TargetedHQ*2015	-0.262 (0.699) [0.711]	0.667 (0.840) [0.446]
Fixed Effects		
MNE	✓	✓
Year	✓	✓
Mean	0.387	0.712
Std_Dev	1.153	1.537
Sample	Full	Financials
MNEs	28	11
Observations	168	66
R^2	0.140	0.191

Robust standard errors in parentheses. p values in brackets.

Table 7. Industry Diversification

	(1) Number of Industries	(2) Number of Industries	(3) Number of Industries
TargetedHQ*2010	-1.021	-2.500	-1.143
	(0.749)	(1.439)	(0.772)
	[0.184]	[0.113]	[0.155]
TargetedHQ*2012	-0.187	3.000	1.024
	(1.473)	(1.104)	(1.062)
	[0.900]	[0.022]	[0.347]
TargetedHQ*2013	0.711	3.375	2.190
	(1.450)	(1.560)	(1.155)
	[0.628]	[0.056]	[0.073]
TargetedHQ*2014	-0.642	-0.708	0.0238
	(1.502)	(3.293)	(1.767)
	[0.673]	[0.834]	[0.989]
TargetedHQ*2015	-2.107	-1.042	0.286
	(1.791)	(3.587)	(1.915)
	[0.250]	[0.777]	[0.883]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Mean	4.708	5.970	4.767
Std_Dev	5.103	6.523	5.240
Sample	Full	Financials	< 100,000 emp.
MNEs	28	11	20
Observations	168	66	120
R^2	0.309	0.379	0.291

Robust standard errors in parentheses. p values in brackets.

A Appendix

Figure A1. Event Studies
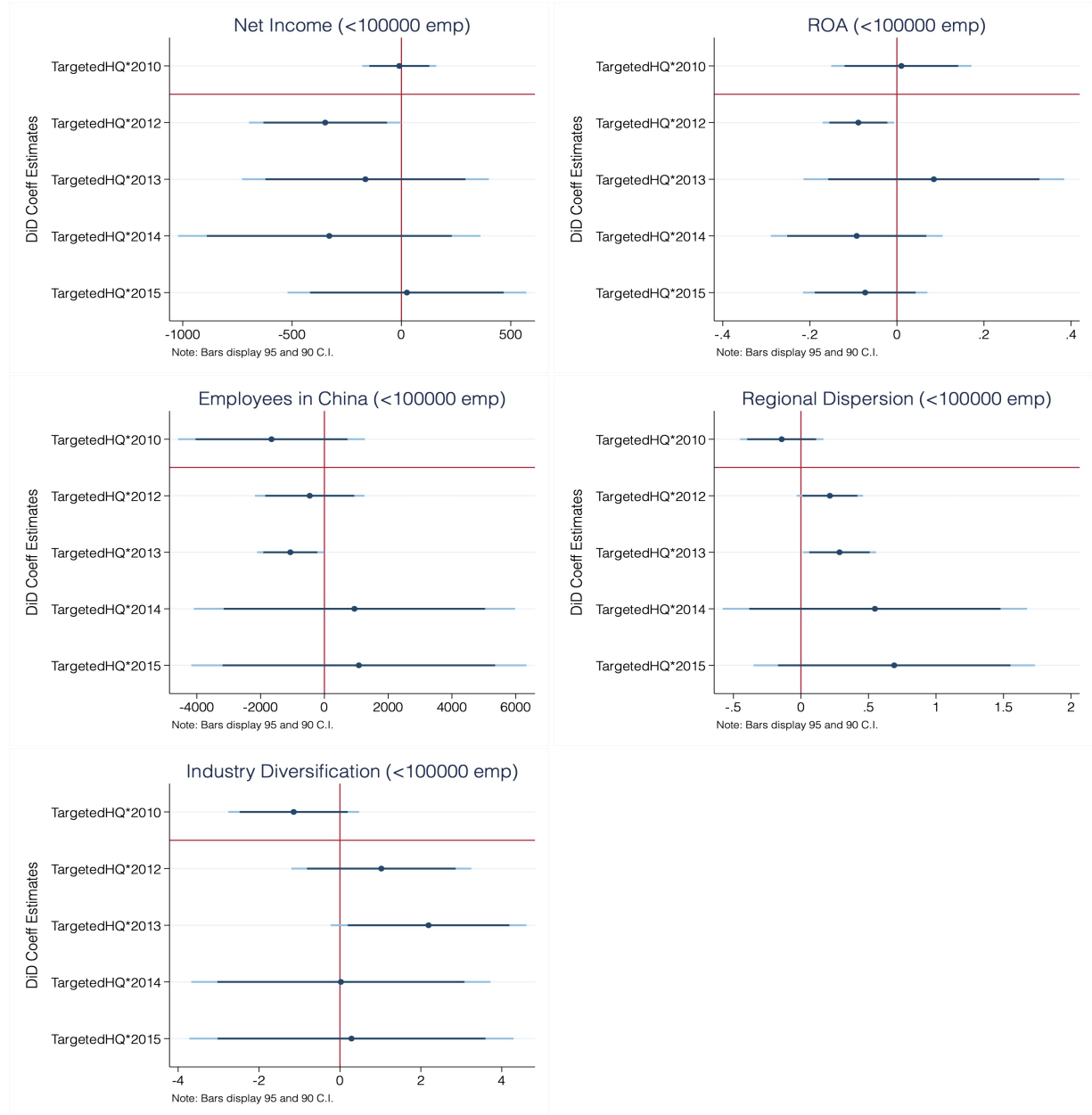
Table A1. Number of Employees in Headquarters

	(1) Employees in Headquarters	(2) Employees in Headquarters	(3) Employees in Headquarters
TargetedHQ*2010	5856.0	-5683.0	-3723.3
	(9650.9)	(950.2)	(999.0)
	[0.551]	[0.000]	[0.002]
TargetedHQ*2012	46.85	930.0	95.74
	(672.6)	(1425.6)	(778.3)
	[0.945]	[0.530]	[0.903]
TargetedHQ*2013	-1043.0	-1497.9	-1220.4
	(1318.8)	(2627.8)	(1347.0)
	[0.438]	[0.583]	[0.377]
TargetedHQ*2014	63.50	-1075.2	-114.4
	(1721.2)	(2865.9)	(1769.5)
	[0.971]	[0.716]	[0.949]
TargetedHQ*2015	42.79	-876.5	-82.44
	(1726.0)	(2945.0)	(1812.5)
	[0.980]	[0.773]	[0.964]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Mean	37,705	16,848	12,820
Std_Dev	82,557	18,868	15,431
Sample	Full	Financials	< 100,000 emp.
MNEs	22	10	19
Observations	132	60	114
R^2	0.123	0.292	0.190

Robust standard errors in parentheses. p values in brackets

Table A2. Frequency for Number of Subsidiaries in Asia by Conglomerate

	PRE-POLICY		POST-POLICY	
Subsidiaries in Asia	Non-Targeted	Targeted	Non-Targeted	Targeted
0	16	28	26	43
1	6	3	16	16
2		2		4
3			1	1
4		1		1
5				1
6			1	
10				1
11				1
Total Observations	22	34	44	68

Table A3. Regional Dispersion - Share of Asian Foreign Subsidiaries

	(1) Asian Share	(2) Asian Share	(3) Asian Share
TargetedHQ*2010	0.064	0.137	0.036
	(0.045)	(0.097)	(0.037)
	[0.165]	[0.185]	[0.345]
TargetedHQ*2012	0.037	0.122	0.054
	(0.024)	(0.059)	(0.036)
	[0.147]	[0.067]	[0.152]
TargetedHQ*2013	0.038	0.125	0.059
	(0.025)	(0.059)	(0.036)
	[0.131]	[0.060]	[0.138]
TargetedHQ*2014	-0.029	0.012	-0.003
	(0.046)	(0.119)	(0.059)
	[0.528]	[0.925]	[0.955]
TargetedHQ*2015	-0.068	0.011	0.016
	(0.062)	(0.119)	(0.062)
	[0.281]	[0.929]	[0.803]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Mean	0.154	0.167	0.130
Std_Dev	0.292	0.233	0.258
Sample	Full	Financials	<100,000 emp.
MNEs	28	11	20
Observations	168	66	120
R^2	0.111	0.136	0.041

Robust standard errors in parentheses. p values in brackets.

Table A4. Regional Dispersion - Share of Asian not PRC Foreign Subsidiaries

	(1) Asian Share not PRC	(2) Asian Share not PRC	(3) Asian Share not PRC
TargetedHQ*2010	0.025	0.052	0.036
	(0.044)	(0.099)	(0.037)
	[0.578]	[0.611]	[0.345]
TargetedHQ*2012	0.026	0.100	0.054
	(0.023)	(0.058)	(0.036)
	[0.252]	[0.112]	[0.152]
TargetedHQ*2013	0.032	0.113	0.056
	(0.024)	(0.060)	(0.036)
	[0.194]	[0.089]	[0.138]
TargetedHQ*2014	-0.0002	0.009	-0.003
	(0.033)	(0.116)	(0.059)
	[0.995]	[0.942]	[0.955]
TargetedHQ*2015	-0.051	0.008	0.016
	(0.060)	(0.116)	(0.062)
	[0.401]	[0.948]	[0.803]
Fixed Effects			
MNE	✓	✓	✓
Year	✓	✓	✓
Sample	Full	Financials	<100,000 emp.
Mean	0.0624	0.123	0.130
Std_Dev	0.142	0.187	0.258
MNEs	28	11	20
Observations	168	66	120
R^2	0.074	0.066	0.041

Robust standard errors in parentheses. p values in brackets.

Table A5. Frequency for Number of Industries by Conglomerate

Total SIC Codes by Conglomerate	PRE-POLICY Non Targeted	Targeted	POST-POLICY Non Targeted	Targeted
1	2	14	4	10
2	11	13	6	15
3	4		14	3
4	2	3	3	13
5	3	1	2	8
6				4
7		1	6	1
8				1
9		1	1	3
10			1	1
12				3
13				1
15			4	
16			1	
17			1	
18			1	1
19		1		
22				1
26				1
28				2
Total Observations	22	34	44	68

Table A6. Summary Statistics by Year

Variable	Obs	Mean	Std. dev.	Min	Max
year = 2010					
Net Income (million USD)	16	97.22	149.46	-54.91	532.57
Return Over Assets	16	0.06	0.06	-0.06	0.17
Employees in China	14	40,678	103,984	0.00	390,254
Subsidiaries in Asia	28	0.25	0.52	0.00	2.00
Number of Industries	28	2.25	1.67	1.00	9.00
year = 2011					
Net Income (million USD)	17	416.58	844.91	-37.82	3616.05
Return Over Assets	17	0.09	0.05	-0.01	0.16
Employees in China	16	36,156	97,657	0.00	390,254
Subsidiaries in Asia	28	0.36	0.87	0.00	4.00
Number of Industries	28	3.14	3.47	1.00	19.00
year = 2012					
Net Income (million USD)	16	81.29	641.86	-1018.00	1850.13
Return Over Assets	16	-0.03	0.09	-0.22	0.10
Employees in China	18	31,878	92,500	0.00	390,254
Subsidiaries in Asia	28	0.46	0.88	0.00	4.00
Number of Industries	28	5.39	5.50	1.00	26.00
year = 2013					
Net Income (million USD)	13	-38.33	431.60	-1,052.06	696.07
Return Over Assets	13	-0.06	0.13	-0.36	0.09
Employees in China	18	32,173	92,467	0.00	390,254
Subsidiaries in Asia	28	0.50	1.04	0.00	5.00
Number of Industries	28	5.39	5.36	1.00	22.00
year = 2014					
Net Income (million USD)	13	-2.28	560.06	-1,637.21	687.26
Return Over Assets	13	-0.03	0.16	-0.54	0.10
Employees in China	18	32,844	92,408	0.00	390,254
Subsidiaries in Asia	28	0.79	2.08	0.00	11.00
Number of Industries	28	5.57	5.83	1.00	28.00
year = 2015					
Net Income (million USD)	14	17.22	337.42	-896.51	708.23
Return Over Assets	14	-0.01	0.11	-0.33	0.10
Employees in China	18	32,775	92,429	0.00	39,025
Subsidiaries in Asia	28	1.18	2.18	0.00	10.00
Number of Industries	28	6.50	6.28	1.00	28.00