

# Policy Uncertainty and Foreign Investors' Entry Mode Choice: Greenfield vs. Cross-Border M&A\*

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## Abstract

We document the distinct responses of two main components of foreign direct investment (FDI), greenfield (GF) projects and cross-border mergers and acquisitions (M&As), to economic policy uncertainty across U.S. states. To this end, we construct a novel dataset that covers the period from 2005 to 2019 using granular U.S. inbound GF and M&A transactions matched to individual foreign investors. We empirically demonstrate that higher uncertainty leads to a decline in the incidence of GF projects, but an increase in the incidence of M&As within investor in a given state. Our estimates also suggest that greater local policy uncertainty has a larger positive effect on the likelihood of cross-border investment via M&A (as opposed to GF) in industries where investment is more irreversible, in states with a more challenging business environment, and for foreign investors with no prior GF experience. Our findings are in line with a stylized model we set up highlighting the importance of entry costs and local synergies in the choice of foreign investment mode.

JEL classification: F21; G31; G34; E22; D89

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# 1 Introduction

The detrimental effects of policy uncertainty on economic activity have been documented in a myriad of studies. In particular, when it comes to cross-border economic activity, previous work has shown that policy uncertainty lowers investment and entry into export markets (see e.g. [Handley and Limao, 2015](#)), and can deter foreign direct investment (see e.g. [Julio and Yook, 2016](#)). An aspect of foreign direct investment (FDI) that has not been analyzed before is how economic policy uncertainty in the U.S. affects the entry mode decisions of foreign firms. In this paper, we quantify the impact of local economic policy uncertainty across U.S. states on the *incidence* and *composition* of inbound foreign investment. We use a novel, granular, investor-level data on both the cross-border mergers and acquisitions (M&As) and greenfield (GF) investment projects matched to individual foreign investors to analyze the impact of policy uncertainty on foreign multinationals' choice of entry mode, GF vs. M&A, when they engage in cross-border investment in local markets across U.S. states. To the best of our knowledge, our paper is the first to document a *within* investor reallocation of FDI, whereby foreign multinationals shift their investment activity in the U.S. away from GF projects towards cross-border M&A deals following an increase in policy uncertainty. We also show that during periods of extremely high policy uncertainty, both M&A activity and GF decline sharply.

The findings that emerge from our analysis are important for at least two reasons. First, GF investment contributes significantly to local job creation and overall economic growth.<sup>1</sup> In contrast, M&A activity can often lead to downsizing for the acquired target firm (see [Arnold et al., 2023](#), for a recent example), and reduce employment and sales ([Chari et al., 2012](#)). Our empirical findings on reallocation of investment away from GF transactions to M&A deals suggest that local economic policy uncertainty can undermine the generous incentives state governments often offer to foreign investors when they undertake GF projects. Second, our analysis suggests that in the face of extremely high policy uncertainty, there is no substitution from inbound GF projects towards cross-border M&A activity—in such policy environments, greater uncertainty suppresses both types of foreign investment, to the detriment of local economic development.<sup>2</sup>

To provide an in-depth analysis of GF and cross-border M&A investment dynamics, we construct a novel dataset based on two detailed, transaction-level databases on cross-border M&As and GF projects from 2003 to 2019 (SDC Platinum and fDi Markets by the Financial Times, respectively).<sup>3</sup> Using these two different data sources and several algorithms, we match cross-border

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<sup>1</sup>For example, in 1986, Toyota built a large, 1,300-acre manufacturing facility in Georgetown, Kentucky, in which they invested \$5.3 billion, partly enticed by \$150 million in tax breaks and other incentives. This investment not only created 7,000 jobs at the new facility but also supported 28,000 additional jobs across the state. In 2007, according to the Association of International Automobile Manufacturers, foreign automakers employed 92,700 workers directly and 574,500 indirectly, accounting for 33 percent of U.S. auto production. (Newsweek, 2008).

<sup>2</sup>See [Alfaro et al. \(2010\)](#) and [Alfaro \(2017\)](#) for the potential effects of FDI on local economies, and the role of complementarities between FDI and local policies in mediating the benefits host countries can gain from multinational activity. Also, see [Setzler and Tintelnot \(2021\)](#) for the positive spillover effects FDI creates in the local economy.

<sup>3</sup>Our sample period ends in 2019, excluding the COVID-19 pandemic era. While COVID-19 brought significant policy uncertainty, it also imposed widespread physical restrictions on production, travel, and business overall. This overlap makes it difficult to isolate uncertainty-driven effects from those caused by COVID-19-related constraints that

M&A transactions and inbound GF investments that were initiated by the same foreign investor, based on the investor's name and foreign nationality (as the databases do not have unique investor IDs). The resulting, novel firm-level dataset allows us to evaluate any potential *within-firm* reallocation in foreign investment between the two types (GF and M&A).

As the local policy uncertainty measure, we use the news-based index of economic policy uncertainty constructed by Baker et al. (2022), which is available at the state level. This measure helps us capture the heterogeneous impacts of domestic and global policy changes across U.S. states, which differ along many dimensions such as regulations, infrastructure, and demographics, among other factors.<sup>4</sup> The aggregate patterns of the two main modes of U.S. inbound FDI— cross-border M&As and GF investments— depicted in Figure 1 introduces some basic empirical facts in our data. While both investment types have mostly been on an upward trend in our sample period, episodically, they appear to move in opposite directions. Further, Figure 1 provides some suggestive evidence that when they diverge, economic policy uncertainty is high, such as when there is a threat of a U.S. government shutdown.

To motivate our empirical analysis, we set up a stylized theoretical model of foreign investment mode choice in the spirit of Nocke and Yeaple (2007, 2008). Specifically, we formulate a partial equilibrium model of heterogeneous foreign firms that differ in their initial production capabilities and optimally decide between a cross-border M&A deal and a GF investment when entering the U.S. market. A GF project involves a high sunk cost of entry as it entails building a subsidiary from scratch. An M&A deal requires incurring a search cost to find a suitable local target firm to acquire, a cost that is lower than the sunk cost of building subsidiary. The two modes of investment also differ in terms of the post-entry production and sales capabilities. If the firm chooses to enter via M&A, the post-merger productivity will comprise the local subsidiary's capabilities, which include their existing sales networks and local market expertise, and the transferrable fraction of the foreign firm's initial production capabilities. By contrast, the foreign firm that chooses to enter via GF investment will be operating only with the fraction of production and sales capabilities they can bring from their home country. All firms are subject to policy uncertainty, which affects the firm's operating costs.

Using this set-up, we show that, under plausible assumptions, an increase in policy uncertainty increases the minimum level of productivity required to enter the U.S. market via GF or M&A. However, the complementarity between the local subsidiary's capabilities, and the foreign investor's initial productivity provides an advantage of M&A over GF. As a result, some highly productive foreign firms that would choose a GF investment change their investment choice to an M&A deal when uncertainty intensifies. Hence, the incidence of GF projects declines while the incidence of cross-border M&As grows with an increase in policy uncertainty. The model also suggests that the increase in the likelihood of M&As over GF depends on the extent of the entry

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are important for foreign multinationals' ability to engage in new investment projects.

<sup>4</sup>A growing strand of literature also studies the impact of state-level policy uncertainty index by Baker et al. (2022) on different measures of economic activity such as US venture capital investment (Tian et al., 2018) and firm investment (Alam et al., 2023; Adra et al., 2024) finding negative impacts.

and search costs, as well as the degree to which foreign firms can utilize their initial capabilities, which they transfer from their home countries.

To test how policy uncertainty affects the incidence of inbound M&A deals and GF projects, we first create a foreign investor-investment mode-U.S. state-year panel using the transaction level data we compile. That is, we calculate the number of GF investments and M&A transactions undertaken by an investor in a particular state and year. There are several advantages of constructing a detailed panel that builds on the dataset we have compiled. First, focusing on the investor dimension allows us to control for previous investment behavior, which may be important in determining entry costs, as well as the local knowledge foreign firms might have acquired. Second, separating the incidence of foreign investment mode by investor, state, and year enables us to identify the potential reallocation between the two types of investment in response to changes in local economic policy uncertainty. Third, our empirical design allows us to implicitly control for other host location characteristics that affect foreign investment and that are either unobservable or difficult to control because of data limitations. For example, foreign investment in all U.S. states is influenced by the same federal fiscal and monetary policy, and all states share many of the same characteristics, such as language and legal institutions, that affect foreign investment. Hence, in our empirical analysis, we compare inbound foreign investment flows across rather homogeneous geographic units (U.S. states), and not different countries, as the overwhelming majority of existing research has done.

Our main findings reveal that in the face of heightened local economic policy uncertainty, foreign multinationals reallocate cross-border investment from GF projects towards M&As. Using our investor-level matched dataset at the annual frequency, we find that a two-standard deviation increase in policy uncertainty (equivalent to a 69% increase in the local economic policy uncertainty index) results in a 6.83% decline in the annual number of GF projects by a foreign investor in a given state. Since there are, on average, 1,002 GF investments per year nationwide, this decline is equivalent to approximately 68 fewer cross-border GF projects annually. In contrast, the same increase in policy uncertainty leads to an 8.56% increase in the incidence of cross-border M&A deals. Given the annual average of 1,029 cross-border M&A deals across the U.S., this translates to roughly 88 additional cross-border acquisitions per year.

We further demonstrate that our results prevail above and beyond stock market (price) effects after controlling for the S&P 500 index (stock price) variation across U.S. states. Moreover, we find that in extreme uncertainty environments (the top 5% of the policy uncertainty index distribution), greater uncertainty leads to declines in both M&A activity and GF investment, i.e. there is no substitution from GF towards M&A investments in this case, leading to an overall reduction in FDI inflows.

After documenting a reallocation from GF investments to cross-border M&A deals following an increase in local economic policy uncertainty, we change our empirical model and conduct a transaction level analysis that estimates the likelihood of investors choosing an M&A deal over a GF project when investing in the U.S. In the transaction level analysis, we are able to include a

more detailed variation of economic policy uncertainty at the quarterly level (as opposed to annual), as well as state-by-source country effects, investor-specific effects, investor-by-state effects, and year effects. In this setting, therefore, we identify the effects of local policy uncertainty only using within-state variation in the policy uncertainty index over the four quarters of a given year. Our main finding from this analysis demonstrates that higher local policy uncertainty increases the likelihood of foreign investors choosing an M&A deal over a GF investment. This result holds for the full set of investors which includes single-mode investors (those who are engaged in one of either GF *or* M&A) and multi-mode investors (those who are engaged in both GF *and* M&A), as well as for multi-mode investors alone.

In order to shed light on the potential mechanisms that drive the reallocation effect we uncover, we consider industry-, state-, and investor-specific traits, guided by the implications of our model. The first industry trait we consider is irreversibility, which proxies for the sunk costs of entry and is measured at the 3-digit industry level. It's a factor our model shows to be important for the mode of investment decision, and it is a crucial element in the dynamic investment models based on the real options theory (Bernanke, 1983). We find that the probability of foreign investors choosing an M&A deal over a GF project is higher in more irreversible industries, i.e. those with a higher fixed entry cost.

Another important factor for the investment mode choice is the potential complementarity between the investor's and the local subsidiary's productivity. These complementarities and expertise of the local market can be especially important in environments where the cost of doing business is unpredictable and high, which can be exacerbated by local uncertainty. To illustrate the importance of local knowledge in mediating the effect of policy uncertainty on firms' likelihood of choosing M&As over GF, we consider four state-level measures that aim to proxy for the manageability of the business environment: (i) business exit rate; (ii) business turn-over rate; (iii) red tape measured by the number of days to establish a business in a state; and (iv) state-level corruption. In all of these cases, we show that the increase in the probability of choosing M&A is greater in states with more convoluted business environments. In states with greater bureaucratic hurdles, firms favor cross-border M&As deals over GF projects when uncertainty grows, highlighting the importance of local partnerships in mitigating unexpected cost shocks.<sup>5</sup>

Further, we investigate how investors' previous experience in the U.S. affects their response to greater local policy uncertainty. Prior investments would not only provide familiarity with the local business environment, but could also lower the search cost of finding a new local target for a merger or an acquisition. We document that prior GF investments in the U.S. make it less likely for an investor to choose M&A over GF when local uncertainty increases. By contrast, the firm's M&A experience does not affect their likelihood to choose a new M&A deal in a state with increased uncertainty. These results underscore the importance of local knowledge in navigating investment challenges in more uncertain times. Firms that gain the experience with a prior GF

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<sup>5</sup>Similarly, Javorcik and Wei (2009) show that corruption increases the value of using a local partners to cut through bureaucratic obstacles.

investment do not feel the need to find a local partner with an M&A deal as much.

Our paper contributes to a growing list of empirical papers that study the impact of policy uncertainty on domestic and foreign investment.<sup>6</sup> Using news-based indexes of economic policy uncertainty such as the Baker et al. (2016) index, Gulen and Ion (2016), Nguyen and Phan (2017), and Bonaime et al. (2018) find that uncertainty has a negative impact on domestic M&As, as well as corporate investment in the U.S. In addition to the Baker et al. (2016) index, a number of papers have used national election data or the world uncertainty index by Ahir et al. (2022) to analyze the link between economic policy uncertainty and FDI flows. While a strand of this literature has used country-level data (Julio and Yook, 2016; Canh et al., 2020; Jardet et al., 2022), another has used firm-level data (Slangen, 2013; Li et al., 2021; Kim and Lee, 2023) to study this link. Even though the majority of the studies estimate a negative impact of uncertainty on foreign investment, the robustness of these results depends on sample characteristics, such as the sample period (pre- vs. post-Great Recession era) or the sample of countries analyzed (advanced vs. emerging markets). Moreover, the evidence regarding the importance of source country vs. host country uncertainty in a push-pull framework is also quite mixed.

While our work is the first to focus on *within*-investor behavior and within-country (cross-state) variation in policy uncertainty to estimate multinationals' foreign investment mode choice, there are two existing papers that analyze the impacts of aggregate host and source country policy uncertainty on this decision. Sun et al. (2021) study 981 GF investments and 86 cross-border M&As by Chinese firms and find that these firms prefer M&As over GF investment under higher source country's (China's) policy uncertainty. Additionally, using survey data of 172 Dutch firms, Slangen (2013) finds host country uncertainty leads to a decline in wholly-owned M&As and an increase in GF investment. One crucial difference between our study and these papers is that we analyze the impact of policy uncertainty on investment decisions *within*-investor using the matched investor-level dataset we construct. Consequently, we are able to demonstrate that investors' likelihood of choosing M&A deals (over GF investments) increases when policy uncertainty intensifies. In fact, we show that when we do not account for unobservable investor heterogeneity via investor fixed effects and estimate the effect of uncertainty only *across*-investors as these papers do, the significant reallocation from GF to M&A activity disappears.

We additionally improve upon the previous studies by analyzing the entire universe of inbound U.S. cross-border investments consisting of roughly 40,000 transactions, originating from 143 countries, as opposed to investments by a subset of firms from a single source country. Further, exploiting host market variation in uncertainty across more similar geopolitical units (regions) within a single country allows us to identify the effects of policy uncertainty on foreign investment and on the substitution between M&A and GF more sharply. Moreover, with cross-state

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<sup>6</sup>The broader existing literature has also shown that a number of other local factors, in addition to policy uncertainty, affect inbound FDI. For example, Kandilov and Senses (2016) demonstrate that local labor regulations that increase firing costs decrease inbound FDI; Kandilov et al. (2016, 2017) and Bilir et al. (2019) provide evidence that local banking competition and local financial development have a positive impact on (the incidence of) inbound FDI. See Erel et al. (2024) for a recent review of the literature investigating international factors, such as differences in economic development, laws, and institutions in driving cross-border M&A activity.

variation, we are able to control for all bilateral factors, such as exchange rates, that are driven by aggregate host and source country policies which also affect FDI.

Finally, our work can also be viewed as a bridge between studies evaluating the effects of uncertainty on (cross-border) M&A activity (e.g., [Bonaime et al., 2018](#)) and those estimating its impact on (cross-border) greenfield investment (e.g., [Kim and Lee, 2023](#)). Although the vast majority of previous work analyzes only a single mode of foreign investor entry in a host market, ignoring the possibility of substitutability (or complementarity) between M&A and GF in the face of greater policy uncertainty, our results indicate that the two entry modes are jointly affected by uncertainty and should be considered in tandem. In fact, greater policy uncertainty leads to a meaningful reallocation in cross-border investment from GF toward M&A.

The rest of our paper is structured as follows. In section 2, we provide a stylized model that helps guide our empirical specification. In section 3, we describe our data, their sources, and the matching algorithm we employ to connect foreign multinationals to both their inbound M&A deals and GF projects. We present our empirical specifications and the estimates, along with a discussion of the mechanism at play, from the investor-state annual panel and the quarterly transaction-level data in sections 4 and 5, respectively. Finally, we provide some concluding remarks in section 6.

## 2 Theoretical Framework

In this section we set up a simple partial equilibrium model of foreign investment to illustrate how aggregate uncertainty can impact the investment mode choice of a foreign firm.<sup>7</sup> Since the two main modes of foreign investment—GF investment and cross-border M&As—are different in nature, policy uncertainty can affect the two modes of investment differently.<sup>8</sup> GF investments are long-term projects where a foreign firm builds a new subsidiary from the ground up in the target country, bringing their technology and capital, and therefore involve larger sunk costs. By contrast, M&A investments involve acquiring ownership of both tangible and intangible assets of an existing target firm, which generates synergies between the local subsidiary’s capabilities and the acquirer’s productivity. Additionally, since divesting after a merger or an acquisition is likely to be easier and cheaper, M&A transactions tend to be less irreversible compared to GF investments.

Taking these differences into account, a short list of papers have developed theoretical models

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<sup>7</sup>There is a sizable literature that focuses on dynamic investment models and shows that theoretically uncertainty can have a positive or a negative effects on firms’ investment decisions. For instance, [Hartman \(1972\)](#), [Hartman \(1976\)](#), [Abel \(1983\)](#), [Bar-Ilan and Strange \(1996\)](#) predict a positive impact, whereas [Bernanke \(1983\)](#), [Pindyck \(1991\)](#), [Rodrik \(1991\)](#), [Dixit and Pindyck \(1995\)](#), [Bertola \(1998\)](#) show a negative impact. Since the main contribution of our paper is to empirically analyze the foreign firm’s entry mode decision under policy uncertainty, instead of formulating a dynamic investment model that builds on the real option theory, we set up a static model where the foreign firms choose between a GF investment and an M&A deal as a means to enter the U.S. market.

<sup>8</sup>Despite some major differences in implementation and objectives, [Davies et al. \(2018\)](#) note that two types of investment also have some similarities. They are both influenced by market size and distance, and usually originate from advanced countries, as predicted by a gravity model.

analyzing the foreign entry mode choice. [Nocke and Yeaple \(2007\)](#) develop a theory of FDI, where firms differ in their mobile and country-specific non-mobile capabilities, and can participate in the merger market to exploit complementarities with local targets. The authors show that in industries where firms mainly differ in mobile capabilities, more efficient firms will choose cross-border M&As relative to GF investments. By contrast, in industries where firms are heterogeneous in their non-mobile capabilities, less efficient firms will choose cross-border M&As. Focusing on cross-country cost differences, as well as heterogeneity in corporate assets, [Nocke and Yeaple \(2008\)](#) underscore the relative importance of GF over cross-border M&As flowing from high to low-cost countries. Also highlighting the heterogeneity of corporate assets, specifically in terms of their intangibility, [Takayama \(2024\)](#) analyzes the welfare implications of the FDI mode of entry choice.

While the papers noted above shed light on important factors in the endogenous choice between the two modes of foreign entry, they do not provide any insights into how this decision can be affected by policy uncertainty.<sup>9</sup> Our goal in this section is to set up a stylized model that incorporates firm heterogeneity following the aforementioned studies and to derive several basic predictions regarding the role of policy uncertainty in the choice of entry mode.

## 2.1 The Set-up

Consider a partial equilibrium model of heterogeneous firms that optimally choose their mode of foreign investment. For simplicity, we assume that exporting is prohibitively expensive, so if a foreign firm wants to enter the host country (i.e. the U.S. in our context), they can only do so through GF investments or cross-border M&As. Foreign firms differ in their production capabilities, which are only partially mobile across countries. Capabilities involving the production technology or physical capital are mobile across the border, but more intangible assets such as knowledge of the local market, marketing or legal expertise are not easily transferrable from the source to the host country. Table A0 in Appendix [A.1](#) lists the parameters of the model.

Each firm produces a differentiated product, demand for which is determined by a constant elasticity of substitution (CES) aggregator. The demand for the variety firm  $i$  is producing is given by

$$q_i = \left(\frac{p_i}{P}\right)^{-\theta} \left(\frac{Y}{P}\right), \quad (1)$$

where  $\theta > 1$  denotes the elasticity of substitution between the varieties,  $P$  and  $Y$  denote the aggregate price level and aggregate demand in the U.S. market, both of which are exogenous to the firm.

Similar to [Nocke and Yeaple \(2007\)](#), we assume that there is an inverse relation between the firm's production capability  $z_i$  and its marginal cost  $c(z_i)$ . We additionally assume that the firm's

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<sup>9</sup>There is a relatively larger literature that analyzes the choice between exporting and GF investment as modes of foreign market entry when firms are heterogeneous. Some of the important examples include [Helpman et al. \(2004\)](#), [Ramondo and Rodríguez-Clare \(2013\)](#), and [Tintelnot \(2017\)](#). The role of uncertainty in the exporting versus GF investment decision has been studied in [Rob and Vettas \(2003\)](#) and [Conconi et al. \(2016\)](#).

marginal cost is subject to an aggregate cost shock,  $\varepsilon$ , that is not observable by the firm before they make their investment. This shock captures the unexpected changes in economic policy in the host country/state, such as changes in business registration requirements or taxes, that affect production costs.<sup>10</sup> Since these costs are incurred during production or sales, after the foreign firm enters the U.S. market, we assume that they are symmetric across the different modes of entry.

## 2.2 Greenfield Investment

Following the usual practice in the literature, we assume that there are initial set-up costs when investing with a GF project. The initial costs of investment,  $F_g$ , which are directly observable (and not subject to uncertainty) are fixed and irreversible. Additionally, we assume that when the foreign firms invest in the U.S., they can't bring all of their production capabilities with them. They can only transfer a fraction  $\delta$  of their total assets and capabilities  $z_i$ . The capabilities that require knowledge of the local market, which are not easily transferrable from the source country, makes up fraction  $1 - \delta$  of their assets. Since the marginal cost is inversely related to the capabilities used in production, we can express the marginal cost of a firm that invests with a GF project as  $c(z_i) = \frac{\varepsilon}{\delta z_i}$ .

Given the fixed cost of investment and the marginal cost of production, the firm chooses the price for their product  $p_i$  to maximize their expected profits

$$\mathbb{E}(\pi_g) = \mathbb{E} \left[ \left( p_i - \frac{\varepsilon}{\delta z_i} \right) q_i - F_g \right] \quad (2)$$

subject to the demand for their product in (1). Substituting in the optimal price, we can write the expected profits generated with GF as

$$\mathbb{E}(\pi_g) = \chi (\delta z_i)^{\theta-1} [\mathbb{E}(\varepsilon)]^{(1-\theta)} - F_g, \quad (3)$$

where  $\chi = \theta^{-\theta}(\theta - 1)^{\theta-1} P^{\theta-1} Y$ . Equation (3) generates a cut-off productivity level,  $z_{GF,0}$ , determining the subset of foreign firms that will find it profitable to invest in the U.S. with a GF project, which is given by

$$z_{GF,0} = \left( \frac{F_g}{\chi} \right)^{\frac{1}{\theta-1}} \frac{\mathbb{E}(\varepsilon)}{\delta}. \quad (4)$$

This minimum viable productivity level is higher when the fixed cost of investment ( $F_g$ ) is higher and when the fraction of assets the firm can transfer from their home country ( $\delta$ ) is lower. Additionally, equation (4) shows that the required productivity level to make GF feasible is increasing in the expected policy shock.

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<sup>10</sup>In the spirit of Hsieh and Klenow (2009) and others in the international capital flows literature, we model policy shocks as encompassing a broad set of policies that introduce distortions into the economy.

### 2.3 The Merger Market

Instead of building a production facility from scratch, the foreign firm can invest in the U.S. by paying a constant search fee to find a local target firm and acquiring it. When the foreign firm finds and purchases a local company, they can benefit from the target's production capabilities. Similar to [Nocke and Yeaple \(2007\)](#) and [Takayama \(2024\)](#), we assume that the acquirer's and the target's assets complement each other and can be combined to produce their product. Hence the acquirer can utilize their mobile capabilities, as well as the target's knowledge of the local market.

As in the case for GF investment, the foreign firm's assets are not perfectly transferrable to the U.S., and only a fraction  $\eta$  can be used in production. Once again assuming that the marginal cost of production is inversely related to the total assets of the merged firm, and is subject to the aggregate policy shock, we can write the marginal cost expression as

$$c^m(z_i, z_j) = \frac{\varepsilon}{z_j + \eta z_i} \quad (5)$$

where  $\eta < 1$  captures the fraction of the foreign company's capabilities that can complement the target's (local production) capability. For simplicity, we assume that the capability of the target,  $z_j$  is directly observable by the foreign firm.

We formulate the merger decisions following [Guadalupe et al. \(2012\)](#), who model the acquisition market as a game in which foreign firms compete with each other to purchase a subsidiary. To find a target, they pay a fee  $\psi$ , which captures the search cost as well as costs incurred during the due-diligence process. Moreover, we assume that the price the acquirer pays for the target is determined in a Nash-bargaining, with price  $R_i$  being equal to the value of the target plus a fraction  $\alpha$  of the gains from the merger ( $\pi_m - \pi_j$ ). That is,

$$R_i = \mathbb{E}\{\pi_j + \alpha(\pi_m - \pi_j)\}, \quad (6)$$

where  $\pi_m$  and  $\pi_j$  denote the operating profits of the merged firm and the target (before the merger), and are given by

$$\mathbb{E}(\pi_m) = \chi[z_j + \eta z_i]^{\theta-1} [\mathbb{E}(\varepsilon)]^{1-\theta} \quad (7)$$

$$\mathbb{E}(\pi_j) = \chi(z_j)^{\theta-1} [\mathbb{E}(\varepsilon)]^{1-\theta}. \quad (8)$$

The acquirer purchases the target if the value of the merged firm minus the purchase price is greater than the search cost of finding a target,  $\psi$ :

$$\mathbb{E}(\pi_m) - R_i = (1 - \alpha)\mathbb{E}(\pi_m - \pi_j) \geq \psi. \quad (9)$$

Substituting in the optimal profits that are obtained by maximizing (7) and (8) and using the expected value of the cost shock under the log-normal assumption, generates the following ex-

pression

$$(1 - \alpha)[z_j + \eta z_{MA,0}]^{\theta-1} - (1 - \alpha)(z_j)^{\theta-1} = \left(\frac{\psi}{\chi}\right) [\mathbb{E}(\varepsilon)]^{\theta-1}. \quad (10)$$

The minimum productivity level that makes M&A feasible,  $z_{MA,0}$ , solves the equation above given the parameters of the model.

## 2.4 Greenfield vs M&A decision

Now consider the problem of the firm that is trying to decide between investing in the U.S. with a GF project or with an M&A deal. Their decision will depend on the relative size of the fixed GF investment costs ( $F_g$ ) and the search costs ( $\psi$ ), as well as the expected returns to the two modes of investment. While the returns to an M&A deal can be higher than the returns to a GF investment due to the synergies between the foreign firm and the target (determined by  $\eta$ ), they can also be lower if the acquisition price is high (partly depending on  $\alpha$ ). The firm will choose to enter with a GF project if the expected return from GF project is greater than the expected return from a merger net of search costs:

$$\mathbb{E}(\pi_g) \geq (1 - \alpha)\mathbb{E}[\pi_m - \pi_j] - \psi \quad (11)$$

Substituting (3), (7), (8) in the equation above we get the following condition for choosing GF

$$(\delta z_i)^{\theta-1} - (1 - \alpha)[z_j + \eta z_i]^{\theta-1} + (1 - \alpha)(z_j)^{\theta-1} \geq \left(\frac{F_g - \psi}{\chi}\right) [\mathbb{E}(\varepsilon)]^{\theta-1}. \quad (12)$$

To see how policy uncertainty affects expected profits under different modes of foreign investment, and to keep the model analytically tractable, we assume that the policy shocks follow a log-normal distribution with mean 0 and variance  $\sigma^2$ .<sup>11</sup> This assumption implies that the expected value of the policy shock will be directly linked to its variance, i.e.,  $E(\varepsilon) = e^{\frac{\sigma^2}{2}}$ . Furthermore, to simplify the exposition, we set  $\theta = 2$ , in which case the decision rule above simplifies to

$$z_i \geq \left(\frac{F_g - \psi}{\chi[\delta - \eta(1 - \alpha)]}\right) e^{\frac{\sigma^2}{2}} = z_{GF}^*. \quad (13)$$

This expression shows that foreign firms with a productivity level higher than  $z_{GF}^*$ , find it optimal to choose GF as their mode of entry. This threshold hinges not only on the difference between the fixed cost of investing with a GF project and the search costs involved in an M&A deal, but also on the parameters that determine the returns to investment under alternative investment modes. For a given productivity level  $z_i$ , the returns to a GF investment will depend on  $\delta$ , i.e., the fraction of the foreign firm's capabilities that they can deploy in the host country. In turn, the returns to an M&A deal will depend on the fraction of the investor's productivity that can complement the target's capabilities ( $\eta$ ) adjusted by the fraction of the newly merged firm value the investor will be able to keep ( $1 - \alpha$ ). Assuming that the fixed cost of GF investment is higher than the

<sup>11</sup>Since our paper is about the uncertainty of the economic policy shocks, rather than the level of a particular policy, we assume that the shocks have mean zero for simplicity.

search cost for a local subsidiary in an M&A deal, i.e.  $F_g > \psi$ , a positive cutoff in (13) requires  $\delta > \eta(1 - \alpha)$ . That is, despite the higher initial fixed costs, the foreign firm will find it optimal to choose to invest with a GF project as long as the return to the project is greater than the return to an alternative M&A deal. The latter can be reduced if the target has a higher bargaining power, which will increase the acquisition price.

How does an increase in the policy uncertainty affect the entry mode decision? Before we illustrate the answer to this question, we simplify the minimum productivity thresholds for GF and M&A in equations (4) and (10) by setting  $\theta = 2$ , which yields

$$z_{GF,0} = \frac{F_g}{\chi\delta} e^{\frac{\sigma^2}{2}} \quad (14)$$

$$z_{MA,0} = \frac{\psi}{\chi\eta(1 - \alpha)} e^{\frac{\sigma^2}{2}}. \quad (15)$$

Next, we assume that a higher level of productivity is required to build a subsidiary from ground up compared to acquiring one; that is,  $z_{GF,0} > z_{MA,0}$ . To achieve this condition, we impose  $\frac{F_g}{\delta} > \frac{\psi}{\eta(1 - \alpha)}$ . Using this assumption accompanied by the premise that building a subsidiary involves a higher cost of fixed investment relative to searching for a subsidiary (i.e.,  $F_g > \psi$ ), it is straightforward to show that, the productivity required to choose GF over M&A is higher than the minimum threshold necessary to undertake a GF investment,  $z_{GF}^* > z_{GF,0}$  (see Appendix A.1 for details).

We can now demonstrate the impact of policy uncertainty on investment mode decisions of foreign firms. First, the model implies that only firms with productivity levels higher than  $z_{GF}^*$  will choose GF investment. As shown in (13), this threshold level is increasing in policy uncertainty (captured with an increase in  $\sigma^2$ ). If policy uncertainty increases, firms' expected costs increase, which raises the minimum productivity level necessary for GF investment to be preferable to an M&A deal, and thereby decreases the number of foreign firms investing with a GF project. This impact of uncertainty intensifies when (i) fixed cost of investment ( $F_g$ ) is higher; (ii) the fraction of capabilities that firms can directly transfer ( $\delta$ ) is lower; (iii) cost of searching for targets ( $\psi$ ) is lower; and (iv) the synergy between firms' and the targets' capabilities ( $\eta$ ) is higher.

Second, we can show that the probability of choosing a cross-border M&A transaction increases with policy uncertainty. In the model, firms carry out an M&A if their capabilities fall in the range between  $z_{MA,0}$  (the minimum productivity necessary to make M&A feasible) and  $z_{GF}^*$  (the cut-off productivity that makes GF investment preferable to M&As). To show that the likelihood of choosing an M&A deal, that is the probability of the firm's productivity being in this range, increases with uncertainty, we can evaluate the changes in

$$Pr(z_{MA,0} \leq z_i \leq z_{GF}^*) = G(z_{GF}^*) - G(z_{MA,0}) \quad (16)$$

with respect to  $\sigma^2$ , where  $G(z)$  is the cumulative distribution function of the productivity distribution. To obtain expressions that are easy to interpret, we assume that the foreign firm productivity

follows a uniform distribution over  $[0, z_H]$ , where  $z_H$  is a finite upper bound.<sup>12</sup> In that case, the change in the probability of doing M&A given the change in uncertainty simply becomes

$$\frac{\partial \Pr(z_{MA,0} \leq z_i \leq z_{GF}^*)}{\partial \sigma^2} = \left[ \frac{F_g - \psi}{\chi[\delta - \eta(1 - \alpha)]} - \frac{\psi}{\chi\eta(1 - \alpha)} \right] \frac{e^{\frac{\sigma^2}{2}}}{2z_H}. \quad (17)$$

The expression above is positive since  $z_{GF}^* > z_{MA,0}$  (see Appendix A.2 for details). Because a surge in policy uncertainty increases expected costs, it raises the productivity thresholds for both feasibility of doing an M&A and for choosing GF over M&A, but the latter threshold increases more than the former. That is, the optimality of a GF investment requires a much bigger increase in productivity compared to the necessary increase to make an M&A deal feasible. As a result, some firms that could undertake a GF project, find it optimal to alter their choice of investment mode to an M&A deal when uncertainty increases. It is easy to see that the change in the probability of choosing an M&A deal intensifies with higher fixed costs, but lessens with the fraction of productivity the investor can transfer to the host country ( $\delta$ ) when doing GF. On the other hand, the more the foreign firm can complement their capabilities with the local target's capabilities (captured with  $\eta$ ), the higher the likelihood will be.

To summarize, in a highly stylized model, we show that when economic uncertainty increases, foreign firms' expected costs increase, which makes it more difficult for foreign firms to enter the U.S. market. In this environment, under plausible assumptions, cross-border M&As can become more profitable relative to GF investments due to the synergies between the acquirer and the target's capabilities and the more irreversible nature of GF associated with the larger initial fixed costs. In our empirical model, we quantify the impact of uncertainty and explore the role of these factors.

### 3 Data

In this section, we describe the data sources we use and the construction of the main variables of interest for the two empirical models we estimate. In our work, we assess the impact of changes in economic policy uncertainty on foreign investors' decision to engage in either GF investments or cross-border M&As across U.S. states. To that end, we combine the state-level economic policy uncertainty measure constructed by Baker et al. (2022) with transaction-level GF investment data from the Financial Times Ltd. fDi Markets database and deal-level M&A data from the SDC Platinum database.<sup>13</sup> Furthermore, to control for time-invariant, foreign investor-specific characteristics and to provide insight into the potential within-investor substitution from one type of investment (GF or M&A) to the another, we use both programmatic methods and visual inspec-

<sup>12</sup>The literature usually adopts a Pareto distribution for firm productivity (see e.g., Helpman et al., 2004). The foreign firms we are considering are likely the higher productivity firms in their home countries, which would place them in the right-hand tail of a Pareto distribution of all firms. In that aspect, we can think of the uniform distribution as an approximation to the higher productivity tail.

<sup>13</sup>Both of these databases are available by subscription.

tion to match all GF and M&A transactions that belong to the same investor. Below, we provide the details on the two different cross-border investment transactions datasets, the matching protocol, and the creation of the foreign investor by state by year panel dataset we use as part of our empirical analysis. Additional definitions and data sources for all covariates we incorporate in our analysis can be found in the Data Appendix.

### 3.1 Greenfield Investment Data

The Financial Times Ltd. fDi Markets database provides comprehensive granular GF investment data that are also used by international agencies, such as the United Nations Conference on Trade and Development, to keep track of global capital flows. For each GF investment transaction, the database provides the announcement date and the location (U.S. state) of the project, the foreign investor's country of origin and (an aggregate) industry associated with the local investment.<sup>14</sup> Information on GF investments is available starting in 2003, but because the investment data is quite sparse in the first two years, we begin our sample period in 2005. Hence, we use data on all inbound GF transactions for the 15-year period from the beginning of 2005 until the end of 2019. Our sample contains information on 18,034 investment projects in the 48 contiguous states.

### 3.2 Cross-border M&A Data

The information on inbound, cross-border M&A deals comes from the SDC Platinum database. Among many other transaction-specific variables, it provides data on the date the deal was announced, the target's location in the U.S. (state), the identity of the foreign acquirer, the acquirer's location (source country), and the (3-digit NAICS) industry in which the target and the acquirer operate. The deal value is recorded for about half of the transactions. We use SDC Platinum data on all 22,508 announced, inbound, cross-border M&A deals for the 15-year period from 2005 until the end of 2019 to match the sample period for the greenfield investment data.<sup>15</sup> Note that our sample period captures times of low economic policy uncertainty as well as times of high economic policy uncertainty during the 2008 global financial crisis as well as the U.S.-China trade war in 2018.

We report the summary statistics with details on the average number of GF transactions and M&A deals across all foreign investor-state-year observations in our sample in Panel A of Table 1. While the average number of GF projects per investor, state, and year is 0.001, there is significant heterogeneity across investors with a minimum (and median) of 0 and a maximum of 14 trans-

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<sup>14</sup>For some of the investment projects, the database also reports the capital expenditures committed to the project, as well as the number of new jobs that the project is expected to generate. Because our empirical analysis also uses cross-border M&A data, which do not contain any information on local jobs created or lost, to keep our analysis symmetric, we focus on the incidence of foreign investment projects.

<sup>15</sup>SDC Platinum reports the date the deal was announced as well as the date it was completed. Out of the 22,508 total number of announced M&A deals between 2005 and 2019, 21,913 were completed. To keep things symmetric with the GF data, we use the announcement quarter-year of the M&A deal instead of the completion quarter-year. We use the data on all M&A deals, both partial and full acquisitions.

actions. Similarly, a large number of observations have cross-border M&A counts of 0, while the maximum number of deals completed by a foreign investor in a given state in a given year is 6.

### 3.3 Construction of Investor-level Panel Data Set

To assess the impact of economic policy uncertainty simultaneously on the incidence of inbound GF investment and cross-border M&A activity, we create a novel transaction-level dataset by matching cross-border M&A transactions and inbound GF investment projects initiated by the same foreign investor from the two different databases, SDC Platinum and Financial Times' fDi Markets, respectively. As the two databases do not have unique investor IDs, we match transactions based on the investor's name, using several matching algorithms. We validate matches using investor, source country, industry, and subsidiary/parent relationships through a final visual inspection step. (see Appendix Section 6.1 for details). To the extent possible, we always match the foreign investor's parent firm with all of its subsidiaries in our data. Hence, the unit of observation is defined at the foreign investor's parent firm level. In our sample period, between 2005 and 2019, the dataset contains information on 21,447 unique investors (GF, M&A, or both), of which 1,174 (or 5.5%) are multiple-transaction (repeat) investors that carry out both cross-border M&A deals and GF investment projects. These repeat investors account for 15.7% of the total number of cross-border M&A deals and GF investment projects.<sup>16</sup>

In order to build an investor-state-year-mode of investment panel, we separately count the number of GF projects and M&A deals for each foreign investor investing in a state during a particular year. This gives us a panel of 30,883,680 observations (21,447 unique firms x 48 states x 15 years x 2 modes of investment), which is balanced across four dimensions – investor, state, year, and mode of entry – for all investors, single and multi-mode.<sup>17</sup> We include all zero observations – even if a particular investor has never invested in a given state using either mode throughout the entire sample period, we include a vector of zeros for that investor in that state. We use this panel dataset to estimate our first econometric model—based on equations (18) and (19) in Section 4—which evaluates the impacts of annual changes in economic policy uncertainty on the incidence of GF transactions and M&A deals.

While there is a substantial number of zero observations in the resulting dataset, because a given foreign investor tends to engage in transactions in only several states throughout the sample period, we retain all the zeroes so that we are able to capture changes in foreign investment along both the intensive and the extensive margin within and across states, foreign investors, and modes of entry. Additionally, we demonstrate that our results are robust to dropping the zero observations for investors who never invest in a given state via a given investment mode throughout the entire sample period.

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<sup>16</sup>Note that there are multiple-transaction investors who carry out either GF investment projects or cross-border M&A deals but not both, i.e., they only use one and the same mode of entry into the U.S. market. They are not included in the 1,174 number above.

<sup>17</sup>The economic policy uncertainty index we adopt is not available for Delaware, South Dakota and Wyoming for a couple of years. As a result we end up using 30,623,074 observations in our estimations.

### 3.4 Transaction-level Data Set

The second empirical model we estimate focuses on the foreign investor decision to engage in M&A activity versus GF investment, given that they have completed a transaction. In this model, we seek to identify the effects of local, state-level economic policy uncertainty on the investor's decision to reallocate funds between the two investment modes. As such, our second econometric model (equation (20) in Section 5) employs the GF and M&A data linked to each investor at the transaction level. For each observation, we create a dummy variable indicating if it is an M&A deal (equal to 1) or a GF project (equal to 0). The summary statistics for the transaction-level data are presented in Panel B of Table 1.

### 3.5 State-level economic policy uncertainty

To study the role of economic policy uncertainty on U.S. inbound foreign investment, we employ a news-based measure of state-level economic policy uncertainty (EPU-C) introduced by [Baker et al. \(2022\)](#). Their study constructs EPU-C by tracking around 3,500 small, local news outlets from 50 U.S. States (along with Washington, D.C.) and counting the number of articles with words such as 'economy' or 'economic', 'uncertainty' or 'uncertainties', as well as a selection of state- and nation-specific policy-related keywords, depending on the scope. For example, for Michigan, state-specific keywords include 'Michigan Senate' and 'Michigan Attorney General'. Nation-specific keywords include 'White House', 'monetary policy', and 'Congressional election'. The composite index, EPU-C, includes keywords from both sets. It is obtained by dividing the number of articles with such keywords by the total number of articles in the same outlets, and then multiplying the ratio by 100. [Baker et al. \(2022\)](#) also provide the state and the national components of EPU-C as separate indexes. In robustness analysis, we report the results we obtain using the state economic policy uncertainty (EPU-S) and national economic policy uncertainty (EPU-N) separately.

The composite index EPU-C varies by state and month. We construct quarterly and annual averages of the variable to use in our quarterly and annual models, respectively. It captures uncertainty arising from policy shocks at the state level, as well as shocks at the national and international levels, which can have heterogeneous impacts on U.S. states. [Baker et al. \(2022\)](#) find that gubernatorial elections, especially close elections, are among the important state-specific events that lead to a spike in the index. It also captures factors beyond elections, and it responds to various local shocks, such as Hurricane Katrina in 2006, which had major economic ramifications for Louisiana and the surrounding states. According to [Baker et al. \(2022\)](#), national elections, as well as important events such as the June 2016 Brexit referendum, are among the common shocks that lead to spikes in the index and have heterogeneous effects across states.

### 3.6 Additional Control Variables

To understand the role of different channels through which the relationship between state-level policy uncertainty and cross-border investment activity is mediated, we consider the following industry, state, and investor traits: investment irreversibility, business exit and turnover rate, red tape, corruption, and previous investment experience as proxied by the previous number of M&A deals or GF projects the investor was involved.

**Irreversibility:** Our irreversibility measure is defined at the 3-digit NAICS level using information from BEA tables and Compustat, reflecting the target’s industry characteristics. In the literature, irreversibility is commonly captured as the inverse of asset redeployability (see, e.g., [Bonaime et al. \(2018\)](#), [Gormsen and Huber \(2025\)](#)), where redeployability reflects how easily assets can be used within or across industries. We begin by adopting the asset redeployability index by [Kim and Kung \(2017\)](#), where the index is constructed as the equal-weighted average of redeployability values across the business segments of Compustat firms. For our purposes, we restrict attention to the 2005-2019 period and compute industry-specific average redeployability measures over this interval. Finally, we convert these redeployability values into our irreversibility measure by multiplying it by -1 (i.e.,  $\text{irreversibility} = - \text{redeployability}$ ).

**Red tape:** We construct a state-level variable capturing the extent of bureaucracy in establishing businesses. We employ data on the average number of quarters (within 8 quarters) that it takes businesses from application to business establishment (a higher value indicates slower processing, and greater bureaucratic hurdles). The data come from the Business Formation Statistics of the Census. Our measure uses 5-year averages for each state.

**Corruption:** We use a state-level measure for political accountability which [Campante and Do \(2014\)](#) demonstrate affects corruption. The proxy measures state-level remoteness using the population-weighted average log distance between each county’s geographic centroid and the state capital. The measure is cross-sectional in nature (varies across states only) and it is computed based on population data from the 2000 Census. This index captures how far, on average, citizens live from the capital, giving more weight to densely populated areas and employing the log transformation. Greater average log distance indicates a more geographically isolated capital, a condition shown to weaken political accountability and lead to greater corruption. In states where residents are dispersed far from the capital, media coverage of state politics is thinner, citizens are less informed and less engaged in state-level affairs. These channels reduce monitoring of public officials, thereby increasing the likelihood of corruption.

**Exit rate and turnover rate:** To capture the difficulty of doing business across U.S. states, we use annual firm entry and exit data from the U.S. Census Bureau’s Business Dynamics Statistics (BDS), which are constructed from the underlying Longitudinal Business Database. The exit rate reflects the share of firms that cease operations in a given year, while the turnover rate—a standard measure of business churning—adds the entry and exit rates to capture the overall instability of the business environment. Higher exit and turnover rates are commonly interpreted as indicators of more challenging business conditions. For our analysis, we compute state-level averages of

these measures over the 2005-2019 period, providing a stable representation of each state’s long-run business climate during our sample window.

**Growth rate of real gross state product (GSP) and real wages:** Our empirical specifications also include two state-level control variables — the first differences of real (log) GSP and real wages, which capture annual (or quarterly) state shocks. These series are obtained from the Bureau of Economic Analysis and Bureau of Labor Statistics, respectively.

## 4 The Impact of Policy Uncertainty on the Incidence of Foreign Investment: Investor-level Evidence

### 4.1 Econometric Strategy

To evaluate the impact of state-level economic policy uncertainty on the annual number of new, inbound GF projects and cross-border M&A deals initiated by foreign investors, we specify the following high-dimensional fixed effects Poisson model, which is frequently used for count data (see, e.g., [Cameron and Trivedi, 2005](#)):

$$P(N_{ijst} = n | \mu_{ijst}) = \frac{\exp(\mu_{ijst})(\mu_{ijst})^n}{n!}, \text{ for } n = 1, 2, \dots \quad (18)$$

$$\begin{aligned} \mu_{ijst} = \exp(\beta_1 \Delta \ln EPU_{st} \times GF_j + \beta_2 \Delta \ln EPU_{st} \times M\&A_j + \mathbf{Z}_{it}\Gamma + \mathbf{X}_{st}\Omega + \lambda_i + \kappa_j \\ + \omega_s + trend_{st} + \tau_t), \end{aligned} \quad (19)$$

where  $N_{ijst}$  is the number of all inbound, cross-border transactions initiated by a foreign investor  $i$ , of mode  $j$  (either GF or M&A), in state  $s$ , and in year  $t$  ( $t = 2005, \dots, 2019$ ). We estimate equations (18) and (19) using Maximum Likelihood, specifically the Poisson Pseudo Maximum Likelihood (PPML) approach suggested by [Santos Silva and Tenreyro \(2006\)](#), commonly used with international trade and cross-border equity flows data.<sup>18</sup>

Our main variable of interest is the change in state-level economic policy uncertainty,  $\Delta \ln EPU_{st}$ .<sup>19</sup> To evaluate the effect of  $\Delta \ln EPU_{st}$  separately on GF investment and M&A activity, our model includes the investment mode indicator ( $\kappa_j$ ), and two interaction terms between  $\Delta \ln EPU_{st}$  and a dummy for GF (GF=1, and 0 otherwise) transaction mode or M&A (M&A=1, and 0 otherwise) transaction mode. The estimates of  $\beta_1$  and  $\beta_2$  will reveal the average impact on the change in economic policy uncertainty,  $\Delta \ln EPU_{st}$ , separately on the incidence (annual number) of GF projects and M&A deals, respectively.<sup>20</sup>

<sup>18</sup>In particular, we employ Stata’s *ppmlhdfc* command, see [Correia et al. \(2020\)](#).

<sup>19</sup>Since our dependent variable, the number of new inbound cross-border transactions, is a flow variable, we use the change in the uncertainty index as our main variable of interest, as well.

<sup>20</sup>Alternatively, we can estimate a specification which includes the main  $\Delta \ln EPU_{st}$  effect and an interaction between  $\Delta \ln EPU_{st}$  and the M&A indicator. In this case, the coefficient on  $\Delta \ln EPU_{st}$  would indicate the impact of economic

Our specification includes state ( $\omega_s$ ) and year ( $\tau_t$ ) effects to account for time-invariant, state-specific heterogeneity, as well as annual, aggregate, macroeconomic shocks that affect all states. Our model also includes state-specific trends to accommodate for differential trends in inbound foreign investment across U.S. states. Importantly, our econometric specification includes investor-specific effects ( $\lambda_i$ ), which allows us to identify the impact of changes in economic policy uncertainty on cross-border transactions controlling for time-invariant, foreign investor heterogeneity. It also includes investment mode fixed effects ( $\kappa_j$ ) to capture the intrinsic differences between the two modes of entry, such as the initial cost of entry. In a number of robustness checks, we further incorporate investor by state fixed effects to account for investor-specific preferences across states. Moreover, in additional robustness checks, we also include the investor's source country by year effects to control for factors such as exchange rates and the source country's GDP, as well as the S&P 500 index interacted with state effects to proxy for state-specific (stock) price shocks that affect inbound foreign investment and may be correlated with state-level economic policy uncertainty.

The two vectors  $\mathbf{Z}_{it}$  and  $\mathbf{X}_{st}$  collect investor-specific and state-specific covariates that affect inbound foreign investment and may be correlated with economic policy uncertainty. Specifically, we include individual investors' cumulative number (as of time  $t$ ) of previous GF and M&A investments, separately. This information may be pertinent as entry in foreign markets is associated with relatively high entry costs, which can have outsized impacts on first-time investors. Once incurred, these costs may have little impact on the frequency of future transactions, thus leading to greater frequency. At the same time, the marginal profitability of additional investments may be declining due to diminishing returns, leading to investors to undertake fewer subsequent transactions. As the entry costs and diminishing returns suggest different successive investment patterns, whether the number of previous investments increase or lower current investment in practice is an empirical question, which we test for below.

When it comes to local economic conditions included in  $\mathbf{X}_{st}$ , we control for productivity shocks, proxied by changes in gross state product, and for cost shocks, proxied by changes in local wages. Finally, we compute heteroskedasticity robust standard errors that are clustered by state so as allow for any arbitrary serial correlation within state over time.

## 4.2 Results

### Baseline Results

The first column of Table 2 presents the results from estimating equations (18)-(19) using only the policy uncertainty measure interacted with the two investment mode indicator variables, along with state trends, as well as investor, investment mode, state and year fixed effects. The results demonstrate the stark difference in the impact of policy uncertainty on the different modes of foreign investment. While an increase in uncertainty depresses the incidence of GF investment, it

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policy uncertainty on the incidence of GF investment, while the interaction term,  $\Delta \ln EPU_{st} \times M\&A$  would reveal the additional impact on the number of M&A deals. These results, which are parallel to the ones presented in the baseline Table 2, can be found in Appendix Table A1.

actually boosts the number of cross-border M&A deals.

The second column of Table 2 augments the specification in the previous column with investor-specific covariates as well as state-specific covariates. In terms of the former, we include the number of previous GF investments the foreign investor has carried out in the U.S., and the number of previous cross-border M&A deals they have announced. The negative coefficients on these investor specific covariates likely illustrate the impact of a combination of factors, including diminishing returns, market saturation, and the lumpy nature of investment, where foreign multinationals would slow or pause their cross-border investment activity after certain amount of prior investments. The larger the number of previous investments (of GF or M&A type) the firm was engaged in the U.S., the lower the expected returns will be from undertaking an additional investment project, which would lead foreign investors to undertake fewer current projects.<sup>21</sup> In terms of state-specific covariates, we add the annual change in gross state product and the average real wage to the specification. Even though the estimated coefficients on both variables have the expected signs, suggesting firms invest more in faster growing markets and less in states with higher labor costs, neither of the estimated coefficients is statistically significant at the conventional 5 percent level.

Importantly, when we control for these sets of covariates, we once again find a negative and significant impact of uncertainty of GF investment, and a positive and significant impact on M&A activity. The negative impact of policy uncertainty on GF is not surprising. Most of the existing literature that evaluates the effects of uncertainty on FDI, of which GF transactions and M&A deals are the two most significant components, documents a negative relation between uncertainty and FDI (see e.g., Julio and Yook, 2016; Canh et al., 2020; Jardet et al., 2022). However, the positive impact we uncover for cross-border M&A deals is a novel and important result, as in general, the literature has found a negative impact on M&A, as well. For example, focusing only on U.S. domestic M&A deals from the SDC Platinum database, Chen et al. (2023) find a negative impact from uncertainty driven by gubernatorial elections. Nguyen and Phan (2017) also find a negative effect on the likelihood of an acquisition (i.e. the incidence of M&A activity) from U.S. policy uncertainty measured by the Baker et al. (2016) BBD index. Comparing with previous work, while keeping the target country constant, our analysis shows how *cross-border* M&A activity likely differs from domestic M&A activity in the face of higher uncertainty. Crucially, one main difference between our study and the previous literature is that using the investor-level dataset we have constructed, we analyze the impact of policy uncertainty on investment decisions *within*-investor. Hence, our results underscore the importance of accounting for investor heterogeneity when evaluating the effects of uncertainty.<sup>22</sup>

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<sup>21</sup>Note that, theoretically, the number of previous investments can also be positively correlated with the number of contemporaneous investments due to fixed/sunk costs. If the initial entry and search costs are high and foreign firms have already incurred them, previous investment experience in the U.S. will be positively correlated with the number of contemporaneous investments. Additionally, previous investments might suggest better knowledge of the local market, which could increase the productivity of the foreign firm in the host state, and thereby boost current investment.

<sup>22</sup>It is worth noting that, if we omit investor-specific fixed effects and estimate the impact of policy uncertainty on

Next, in column (3) we expand our empirical model by including investor by state fixed effects. These dyadic fixed effects can capture time-invariant factors that reflect investor-state match quality: long-run complementarities and other static attributes that shape the attractiveness of a state for a given foreign investor. The estimates presented in column (3) suggest that our results are robust to controlling for investor by state fixed effects.

In column (4) we further include source country by year effects. These fixed effects capture any aggregate shocks originating from the investor's source country (such as exchange rate fluctuations or changes in foreign GDP) that might affect the multinational company's foreign investment decisions. The results suggest that a two standard deviation hike in policy uncertainty (as measured by the rate of change in EPU), which corresponds to a 69% increase in EPU, leads to a 6.83% reduction in the number of GF investments undertaken by a foreign investor in a given state and year. On average, there are 1,002 GF investments annually across all the states. Hence, the 6.83% reduction implies 68 fewer GF investment projects per year due to the increase in policy uncertainty. By contrast, the same shock to policy uncertainty leads to an 8.56% increase in the number of cross-border M&A deals. Given the annual average of 1,029 cross-border M&A deals across the U.S., this increase translates into approximately 88 new M&A transactions.

One potential concern about the impacts we uncover, particularly for cross-border M&As, can be that our findings reflect valuation effects. That is, during periods of high policy uncertainty, it becomes more difficult to evaluate firms' profitability, and as a result, their stock price declines (Pástor and Veronesi, 2013). Given the discounted asset prices, foreign firms can afford to invest more in markets with greater policy uncertainty. To ensure these pricing effects are not the sole driver of our results, we add interaction terms between the S&P500 Index— a proxy for asset price fluctuations— and state dummies to the specification in column (5). These interaction terms capture the differential effects of the asset price movements across states (e.g., asset price fluctuations likely affect firms in New York differently than firms in Vermont). The results in column (5) demonstrate that even after controlling for heterogeneous asset price effects, policy uncertainty depresses GF investments but boosts cross-border M&A activity.<sup>23</sup>

In column (6), we confirm that our results are not driven by the preponderance of zeros, by dropping all the zeros for investor-state combinations with no investments throughout the sample period. That is, if an investor never invests in a state, using a given investment mode, throughout the 15 years, we exclude those investor-state combinations from our sample. Once again, we find that our results are robust to this alternative configuration of the investor by state by year panel.

Finally, we investigate if there exist any non-linearities in the relationship between policy un-

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M&A activity, we also obtain a negative, albeit insignificant, effect. These results are available upon request from the authors.

<sup>23</sup>In unreported analyses (available upon request), we show that our results remain robust after excluding foreign investors from the financial sector, alleviating concerns that our findings are driven by financial-sector-specific shocks, particularly during the global financial crisis of 2008. This concern also relates to the literature examining whether crisis-period foreign acquisitions reflect fire-sale dynamics. Alquist et al. (2016) show that cross-border M&A activity during financial crises is largely driven by non-financial acquirers and is consistent with "business as usual," rather than opportunistic fire-sale behavior.

certainty and the incidence of the two main modes of foreign investment. In particular, we check if foreign firms opt to invest in the U.S. via cross-border M&As even when policy uncertainty shocks are very large. To capture the non-monotonic effects of policy uncertainty, we create a dummy variable that takes on a value of one when the change in (the logarithm of) the policy uncertainty measure in a given state and year is greater than or equal to the 95th percentile in the uncertainty measure distribution for the entire sample. We then interact this dummy variable with the two variables that measure the impact of policy uncertainty on GF and M&A, and additionally include the triple interaction terms in the specification in column (8).<sup>24</sup> The results, which are presented in column (7) of Table 2, show that the number of  $GF_j$  transactions decline by a greater magnitude when the policy uncertainty changes are substantial. More interestingly, we find that when the uncertainty shocks are unusually large (above the top 5th percentile of the uncertainty distribution), the incidence of cross-border M&A activity, in fact, declines with policy uncertainty, as well.<sup>25</sup> If, for example, the jump in the policy uncertainty measure is equal to its 95th percentile value of 1.12, the number of cross-border M&A deals declines by 61%, which is slightly smaller than the 83% decline in the number of GF investments.<sup>26</sup>

The estimates clearly demonstrate that, in general (aside from periods of extreme uncertainty shocks), greater policy uncertainty tends to have a positive impact on M&A deals relative to GF transactions. That is, a higher risk of policy changes leads foreign investors to shift from GF projects towards M&A deals, likely because the former involves large initial investment costs that are more irreversible compared to the latter. Additionally, foreign multinationals might find it easier to work with a local partner that is more knowledgeable about local rules and regulations when economic policies become more uncertain, which, in turn, makes them more likely to choose cross-border M&A as their investment mode. We analyze these and related mechanisms in the next section. But first, we provide additional robustness checks confirming our findings using the foreign investor by state panel data.

### Additional Robustness

In our first robustness check, we consider the two separate components of the composite policy uncertainty measure we employed in our baseline model – national and state policy uncertainty. Note that even though all states are subject to the same national policy uncertainty shocks, the impacts are likely heterogeneous across states. For example, consider an increase in trade policy uncertainty due to a trade war that involves agricultural products, among other things, such as soybeans. States that are engaged in international trade (exports) of soybeans are likely to be

<sup>24</sup>The triple interaction terms are  $\Delta \ln EPU_{st} \times GF_j \times High \Delta \ln EPU_{st}$  and  $\Delta \ln EPU_{st} \times M\&A_j \times High \Delta \ln EPU_{st}$ . The interaction terms between the  $High \Delta \ln EPU_{st}$  indicator and the  $GF_j$ , and  $M\&A_j$  dummy variables are absorbed in the fixed effects.

<sup>25</sup>It is worth noting that we tried different threshold values when defining “high uncertainty”, and we found that uncertainty becomes a deterrent for M&A inflows starting at about the 90th percentile. Also, the effects’ statistical significance increases progressively with higher thresholds.

<sup>26</sup>As of May 2025, the latest annual change (April 2024 to April 2025) in the logarithm of Baker et al. (2016) national economic policy uncertainty index is 1.64. This change is significantly greater than the 95th percentile, whose impact we evaluated above.

affected significantly more by such a trade war, and the national uncertainty index in those states may have a greater impact on foreign investment. Consequently, inbound foreign investment in those states will be more sensitive to (trade policy uncertainty as captured by) the national economic policy uncertainty measure.

In column (1) of Table 3, we focus on the impact of the national policy uncertainty (EPU-N) measure on the number of investment transactions using specifications with the baseline fixed effects: state and year effects, state trends, as well as investor, investment-mode, and source country by year fixed effects. In column (4), we further include investor by state fixed effects. Columns (2) and (5) repeat these exercises with the state policy uncertainty measure (EPU-S), without and with investor by state fixed effects, respectively. The results in all four columns demonstrate that the responses of both GF investments and cross-border M&A deals to the national and state-specific measures resemble the responses we obtain using the composite measure in the baseline specifications in Table 3. This evidence suggests that the results using the composite measure are not solely driven by either national or state-specific policy uncertainty.

Baker et al. (2022) find that gubernatorial elections, especially close elections, are among the important state-specific events that lead to a surge in the political uncertainty index. A number of papers (e.g., Chen et al. (2023), and Jens (2017)) have used gubernatorial elections as a proxy for uncertainty. We check the robustness of our results additionally controlling for gubernatorial elections in columns (3) and (6) of Table 3. In column (3), in addition to the EPU terms and our baseline fixed effects, we include two indicator variables capturing whether there was a statewide election in the current or the previous year and their interactions with the investment mode dummies. The estimated impacts of state gubernatorial elections align with the effects of policy uncertainty we uncover. We find that elections have a positive and significant contemporaneous effect on the incidence of cross-border M&A deals. Additionally, gubernatorial elections have a lagged negative impact on the incidence of GF investments, presumably due to the longer planning horizon GF projects require. The results remain robust after including investor by state fixed effects in column (6). Importantly, the estimated effects of economic policy uncertainty on the two types of foreign investment remain very similar to the impacts we previously estimated in columns (4) and (5) of Table 2, confirming that the Baker et al. (2022) index captures much more than the uncertainty generated by local elections.

## 5 The Impact of Policy Uncertainty on the Likelihood of M&A Activity vs. GF Investment: Transaction-level Evidence

### 5.1 Econometric Strategy

Our second model aims to directly test if heightened local policy uncertainty results in reallocation from one mode of inbound, cross-border investment into another. In this case, we employ economic policy uncertainty data at the quarterly frequency, and instead of including the annual

change in EPU as an explanatory variable, we employ all 4 quarterly lags of  $\ln(EPU)$  in levels, which results in a more flexible econometric specification. We use the quarterly frequency here to increase precision of our estimates given that policy uncertainty can vary, sometimes substantially, across the four quarters of a given year. Note that it is not computationally feasible to do that with the investor-state panel we use in our first econometric model because of the preponderance of zeros in data at the investor by state by mode of entry level at the quarterly frequency.

As in the first econometric specification we discussed in the previous section, our transaction-level dataset and the second econometric model also allow us to control for investor heterogeneity by including foreign investor-specific effects as we estimate the impact of local economic policy uncertainty on the likelihood of completing an M&A deal instead of greenfield investment. To that end, we estimate the following high-dimensional fixed effects linear probability model:

$$M\&A_{istq} = \pi_1 \ln EPU_{stq-1} + \pi_2 \ln EPU_{stq-2} + \pi_3 \ln EPU_{stq-3} + \pi_4 \ln EPU_{stq-4} \\ + \mathbf{Z}_{it}\Gamma + \mathbf{X}_{st}\Omega + \lambda_i + \omega_s + trend_{st} + \tau_t + \kappa_q + \varepsilon_{istq}, \quad (20)$$

where  $M\&A_{istq}$  is an indicator equal to 1 if the transaction by foreign investor  $i$  in state  $s$ , year  $t$  ( $t = 2005, 2006, \dots, 2019$ ) during quarter  $q$  ( $q = 1, 2, 3, 4$ ) is an M&A deal as opposed to a GF investment. The estimate of  $\pi_i$ , for  $i = 1, 2, 3, 4$ , reveals the impact of EPU on the likelihood of the transaction undertaken by the foreign investor being an M&A deal instead of a GF investment. Hence, a positive estimate of  $\pi_i$  indicates that greater policy uncertainty increases the probability that a given cross-border transaction is an M&A deal as opposed to a GF project. As in our previous empirical model, we include the same investor-specific and state-specific covariates in  $\mathbf{Z}_{it}$  and  $\mathbf{X}_{st}$ . Additionally, we include investor, state, year, and quarter fixed effects, as well as state trends. Because we are able to take advantage of quarterly variation in EPU in this empirical model, in a robustness check, we also include state by year fixed effects, which allow us to estimate the impact of local policy uncertainty on the likelihood of an M&A deal only using within-year variation (across the 4 quarters) in state-level policy uncertainty.

Our econometric strategy in equation (20) above relies on a linear probability model instead of a logit or a probit specification because of the large number of fixed effects relevant to our within-investor analysis. Due to the large set of fixed effects, it was not possible to find a reliable solution or achieve convergence using a logit or a probit model estimated with maximum likelihood. It is worth noting that the mean of the dependent variable, i.e., the fraction of inbound transactions that are M&A deals as opposed to GF projects, is about 0.5, which implies that the estimates from a linear probability model will likely be very close to the two non-linear alternatives. Finally, as in our previous model, we cluster the standard errors at the state level to account for serial correlation within a state over time, which is important as our main variable of interest, the (lags of) state policy uncertainty, varies at that spatial level.

## 5.2 Transaction-level Results

### Baseline Results for the likelihood of inbound M&A activity

Table 4 presents the transaction level results from our analysis of the foreign investor's choice between an M&A deal and a GF investment in the face of policy uncertainty. We begin by estimating the impact for all investors, i.e., investors that have engaged in M&As alone, GF projects alone, or both during our sample period. The first specification includes four lags of the policy uncertainty index, as well as the rich set of fixed effects described in the previous section, except for the investor fixed effects.<sup>27</sup> The small and insignificant coefficients on the policy uncertainty terms in the specification in column (1), which omits investor fixed effects, imply that, on average, uncertainty does not have an effect on the choice of foreign investment mode *across* different investors. However, this implication significantly changes once we focus our attention on the impact *within* investors in column (2).

As we described in Section 3, one of the novelties of our study is that we match observations on GF projects and M&A deals from two different datasets by foreign investor. Hence, we can identify foreign investors who carry out more than one M&A deal or GF project, including investors who engage in multiple cross-border transactions using both investment modes. This allows us to analyze within investor responses to changes in policy uncertainty, and provides an opportunity to directly estimate the likelihood of reallocating across the two investment modes within foreign investor. In addition to the set of fixed effects in column (1) of Table 4 (year, state, S&P500-state fixed effects, and state trends) in column (2), we also include investor fixed effects.

The results demonstrate that policy uncertainty positively impacts the probability of choosing cross-border M&A (as opposed to GF investment) as a mode of entry with a lag of four quarters. The first three lags are small and statistically insignificant, indicating that the planning horizon for foreign investment is about a year. The coefficient on the fourth quarter lag of  $\ln(EPU)$  suggests that a 1% increase in local policy uncertainty, which is almost equal to an increase of two standard deviations (see Panel B of Table 1), leads to a 1.5 percentage points increase in the likelihood that a foreign investor chooses a cross-border M&A deal instead of a GF investment to enter the U.S. market.

The reallocation effect we uncover can be driven by three alternative investment responses: (i) foreign multinationals who only engage in greenfield projects cut back on their investments; (ii) foreign multinationals who only carry out cross-border M&A deals increase their investment; and/or (iii) multi-mode foreign investors (foreign multinationals who have invested via both modes during our sample period) shift their investment from GF to cross-border M&As. To investigate how much of the reallocation is driven by investors engaged in both modes of investment, in columns (3)-(8), we focus our attention only on the subset of multi-mode investors. All of these columns report results with investor fixed effects.

In column (4), we additionally include state by year fixed effects which absorb any annual

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<sup>27</sup>In Appendix Table A.2, we consider an alternative specification allowing for six lags of the policy uncertainty index, and identify similar quantitative impacts showing up mainly on the fourth lag of the specification.

state-specific shocks above and beyond price effects, which are absorbed by the S&P500 by state interactions included in column (3). Furthermore, in column (4) we also include source country by year effects. The results in both columns (3) and (4) clearly demonstrate that in the face of greater policy uncertainty, multi-mode investors, those willing and able to invest in the U.S. using both modes of foreign investment, are significantly more likely to choose cross-border M&As. The estimates show a statistically significant and economically meaningful effect four quarters after the change in policy uncertainty, although there may be an impact even two quarters following the shock. Again, this is consistent with firms' planning horizon of up to a year. Focusing on the more exhaustive specification in column (4), we find that the likelihood of choosing M&As increases by nearly 10% at four quarters, which is much larger than the impact we found using the full sample which includes investors who strictly prefer or have the resources to invest solely via GF or cross-border M&As. In columns (5) and (6), we introduce investor by state dyadic fixed effects to control for time invariant foreign investor - U.S. state, unobserved factors driving a foreign investor to a given state. In these two columns, we also control for various configurations of state-level effects, i.e., state trends or state by year fixed effects. The estimates in columns (5)-(6) suggest highly robust results of the impact of policy uncertainty on the likelihood of an M&A choice. Finally, in columns (7) and (8), we perform another robustness exercise – we include only the fourth lag of the policy uncertainty index. Not surprisingly, we identify similar impacts on the choice of investment mode. These results are robust to the inclusion of investor by state fixed effects as reported in column (8), as well.

Focusing on the specifications with investor fixed effects from columns (2) to (8), we also find that faster GSP growth reduces the likelihood of investors choosing an M&A deal, whereas higher wage growth increases it (albeit yielding generally statistically insignificant results). In addition to the state-specific covariates, we also include investor-specific covariates that capture the investment history of the firm in the U.S. Specifically, we calculate the number of all M&A deals previously completed in U.S. states (including the given state and all other states) by the same investor. We further calculate the number of all previous GF projects completed in the U.S. (across all states) and include these two covariates in our econometric model.

Accordingly, in columns (2)-(8) of Table 4, we find that both types of previous investment experience have statistically significant impacts on the likelihood of choosing cross-border M&A as an investment mode of entry. A greater number of GF investments (in the given state or all other states) previously completed by a foreign investor is associated with a higher probability of choosing an M&A deal instead of a GF project currently. This result suggests that once foreign investors have paid the fixed/sunk costs and have established their presence via GF project, they are more likely to further expand using cross-border M&As. In turn, previous experience with a cross-border acquisition (in the given state or all other states) makes foreign investors less likely to pursue another M&A deal in the future, as they likely face a saturated market for potential M&A deals and experience diminishing returns to such investment. This result is also consistent with the lumpy and episodic nature of such investments: after completing a major acquisition, firms

may pause investment activity in the face of a temporarily exhausted pool of viable acquisition targets.

## Mechanisms

In addition to the initial fixed/sunk cost of investment, our model highlights the importance of synergies between the investor and the target when the foreign firm is facing policy uncertainty. To further shed light on these factors that lead foreign multinationals to shift their inbound U.S. investments away from GF and towards M&A when they face higher uncertainty, we consider several industry-specific, state-specific, and investor-specific traits. Since our baseline transaction-level results in Table 4 indicate a significant impact of only the fourth quarterly lag of policy uncertainty, all of our empirical specifications in this subsection are based on a parsimonious model with just the fourth quarterly lag of policy uncertainty.

The first trait we explore is investment irreversibility, which varies at the industry level. Then, to test the importance of local knowledge an M&A partnership can provide, we focus on factors that can make it easier or more challenging for foreign investors to do business in a particular state. To this end, we use measures of business exit rate, business turnover rate, red tape, and corruption. Lastly, we consider the foreign investor's familiarity with a state as a mediating factor, based on an investor's previous experience with M&A deals and GF projects in the U.S. (in a given state and all other states). We study these channels by focusing on the group of investors that would seriously consider both modes of investment, i.e. the group of investors that have engaged at least once in each of the investment modes throughout our sample period.<sup>28</sup>

**Irreversibility:** The results we have presented so far clearly demonstrate that foreign investors respond to heightened policy uncertainty by switching from GF investments to cross-border M&As over the course of four quarters. The reallocation effect between the two modes of investment conforms to the prediction of our stylized model, which suggests that in the face of policy uncertainty M&As can be more profitable relative to GF investments due to the synergies between the acquirer and the target's capabilities and the larger initial fixed/sunk costs of GF investments. It also aligns with the theories that posit costlier-to-reverse investments are more likely to be delayed when uncertainty rises (Bernanke, 1983; Dixit and Pindyck, 1995).

To further highlight the importance of sunk costs in determining foreign investors' response to a U.S. state's policy uncertainty, we adopt (mean) asset redeployability measures for 3-digit NAICS industries in the U.S following Kim and Kung (2017) for our sample period. We invert the measure by multiplying it by -1 to capture irreversibility in each industry: higher values of irreversibility indicate higher sunk costs (see the Data section 3 for details). We then interact the irre-

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<sup>28</sup>While foreign investors who have always chosen only one of the investment modes throughout the entire sample period of 15 years may be swayed to potentially choose the other mode eventually, they are likely not the marginal investor who may be willing and able to seriously consider switching from one mode of investment to another in the face of uncertainty or as a result of other economic shocks. These types of investors likely have significantly more rigid production or institutional constraints that prevent them from switching from one investment mode to another under normal conditions.

versibility variable with the fourth lag of the measure of economic policy uncertainty,  $\ln EPU_{s,q-4}$ .

Column (1) of Table 5 reports the main effect of policy uncertainty on the foreign firm's choice of investment mode as well as its additional effect on foreign investments in more irreversible industries. The results demonstrate that the reallocation away from GF towards cross-border M&A transactions occurs mainly in industries with higher sunk costs of investment. We find that a 1% increase in policy uncertainty increases the probability of choosing M&A deals by 2.8% in industries with the average level of irreversibility of -0.413 (see Panel B of Table 1). This impact more than doubles in industries with a measure of irreversibility that is one standard deviation (0.113) higher than its average value.

**Exit rate and turnover rate:** High business exit and turnover rates often signal a more challenging business environment. In states where these rates are elevated, foreign investors may find it more difficult to operate. Under higher policy uncertainty, they may shift their mode of entry from GF to M&A in order to rely on a local partner and better navigate these difficulties. Columns (2) and (3) examine this channel using the exit rate and the turnover rate, respectively.

The estimates in column (2) of Table 5 indicate that foreign investors' propensity to choose M&A over GF investment rises more sharply under heightened uncertainty in states with higher exit rates or more challenging business environment. Specifically, a 1% increase in policy uncertainty raises the probability of selecting an M&A deal (over a GF project) by 4.8% in states with the average exit rate of 8.69 (see Panel B of Table 1).<sup>29</sup> The coefficients combined also suggest that the reallocation effect dissipates when a state has an exit rate that is lower than 8.27. By contrast, the probability of reallocation can go up to 23.8% in states with the highest exit rate of 10.37.

In a parallel exercise in column (3), we use the business turnover rate as a measure of the local business environment, and we obtain similar results – an increase in the likelihood of an M&A of 5.04% in states with the mean turnover rate of 9.08. This effect becomes as large as 27.2% in states with a turn-over rate equal to the maximum of 11.19. Together, these results confirm that foreign investors are more inclined to seek local partners and pursue M&A deals—rather than GF projects—in states with a more challenging business environment during periods of heightened uncertainty.

**Red tape:** The cost of foreign investment can be amplified as a result of the interaction between policy uncertainty and local bureaucracy. When policy uncertainty intensifies, foreign investors may be more likely to seek local partners via M&A activity in states where starting a business is costlier due to higher levels of red tape. To shed light on the synergistic advantage M&As have over GF investments in environments with higher local costs of doing business and excessive bureaucratic procedures, we interact a measure of state level red tape with the state policy uncertainty index and include it in our specification. As we discussed in detail in the the Data section 3, this measure of red tape captures the average number of quarters it takes to establish a business in a given state.

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<sup>29</sup>The exit and turn-over rates are in percentages.

The estimates reported in column (4) of Table 5 suggest that foreign investors' propensity to choose M&A activity over GF investments in the face of heightened uncertainty increases by more in states with higher levels of red tape. In particular, we find that a 1% increase in policy uncertainty raises the probability of choosing M&A deals by 4.7% in states with the average level of red tape equal to 1.84 quarters. This impact more than doubles in states with a measure of red tape that is one standard deviation (0.257) higher than its average value. These results confirm that foreign investors are more likely to seek local partners and pursue M&A deals (instead of GF projects) in states with greater bureaucratic obstacles during uncertain times.

**Corruption:** We measure corruption using the ALD2000 index of [Campante and Do \(2014\)](#), a population-weighted log distance measure of state-capital remoteness, where higher values imply weaker accountability and higher corruption risk. Using this state-level corruption index, we examine whether heightened policy uncertainty leads to a greater shift from GF projects toward M&A activity in more corrupt states. Because corruption can create additional administrative obstacles and increase informal costs, investors may prefer acquiring (partnering with) an established local firms to navigate through these frictions.

The estimates in column (5) of Table 5 indicate that the uncertainty-induced shift toward M&A is significantly greater in states with higher levels of corruption. Specifically, a 1% increase in policy uncertainty raises the likelihood of choosing an M&A deal by 5.4% in a state with the average corruption level of 0.73 (see Panel B of Table 1) and by 9.1% in a state with the average corruption level one standard deviation above the mean (0.84).

**Investment history:** Finally, we examine how foreign investors' prior investment experience in the U.S. (a specific state or the other states) influences their response to changes in local policy uncertainty. To achieve this, we interact (the fourth lag of) the local policy uncertainty with the two investor-level covariates that we include in our linear probability model, which capture the number of GF investments and M&A deals the foreign firm has previously made.

Based on the results reported in column (6) of Table 5, we find the reallocation to M&A activity to be the highest for firms with no previous investment experience (base category) in the face of heightened uncertainty. Specifically, the estimates imply that a 1% increase in policy uncertainty is associated with an 11% rise in the likelihood of a cross-border M&A (as opposed to a GF project) if the investor has no prior investment experience. Further, the interaction effects suggest that previous M&A experience of the investor (in the same and other states) does not yield an economically significant marginal impact on the M&A likelihood. By contrast, firms are significantly less likely to choose cross-border M&As over GF investments if they have previously engaged in a GF investment in the U.S. Given an average of 1.87 previous GF investments in the sample, the likelihood of a firm's M&A choice with previous GF experience is estimated to be 8.9%, which is lower than the 11% increase in the likelihood of an M&A if the foreign investor has never engaged in GF projects in the U.S. before. This result sheds further light on the importance of synergies M&As provide, which can be essential in the face of heightened uncertainty for investors who have not

previously invested in the U.S. Prior GF investment implies that the foreign investor has already acquired some local knowledge that can help when policy uncertainty intensifies. This makes the local knowledge advantage of M&As, and hence their attractiveness, less crucial.

## 6 Conclusion

Foreign investment can be an essential source of financing, productivity gains, and employment. In the U.S. alone, foreign multinationals provide jobs to about 8 million workers, paying wages higher than those in domestically owned firms and generating positive spillover effects in the local economy.<sup>30</sup> Not surprisingly, state and local governments have been eager to attract foreign firms to their jurisdictions, often with the promise of generous subsidies. At the same time, economic policy uncertainty in the U.S. has experienced several episodes of dramatic changes over the last two decades.

While much work has been done to assess the factors that are important in the location choice of multinationals in the U.S., no work to date has evaluated the impact of local economic policy uncertainty on the allocation of foreign investment across different modes of entry into the U.S. Our paper is the first to leverage granular data on both cross-border M&A deals and GF investment projects from 2005 to 2019, to demonstrate that local policy uncertainty has a negative effect on the incidence of cross-border GF projects across U.S. states, and a pronounced, positive effect on the incidence of inbound M&A deals. We manually match foreign investment transactions, GF projects and M&A deals, which come from two different databases, to each foreign investor, to show that rising economic policy uncertainty induces a shift in the foreign firms' mode of investment in the U.S. away from GF projects towards cross-border M&A deals.

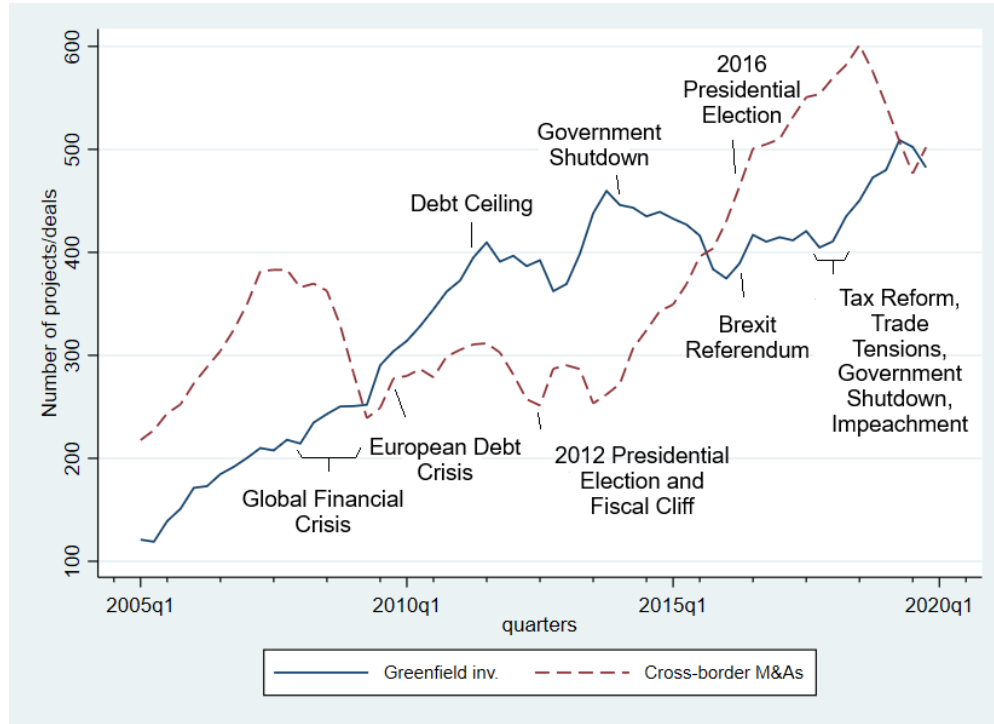
Moreover, we uncover a substantial amount of heterogeneity in the impact of policy uncertainty. In particular, our estimates suggest that greater local uncertainty has a larger positive effect on the likelihood of cross-border investment via M&A (as opposed to GF) in industries where investment is more irreversible, in states with a more challenging business environment, and for foreign investors with no prior GF experience. These effects likely arise because GF projects are associated with large entry costs and because local partners can better help navigate challenges, including excessive bureaucratic hurdles, in more uncertain times. While economic policy uncertainty is impossible to eliminate and local policy makers may not be able to perfectly control it, our work demonstrates that there may be gains (to foreign investment flows and the associated benefits to the local economy) from reducing economic uncertainty and improving policy transparency.

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<sup>30</sup>See, for example, <https://www.trade.gov/sites/default/files/2022-04/IndirectJobsSelectUSABrief.pdf> for details.

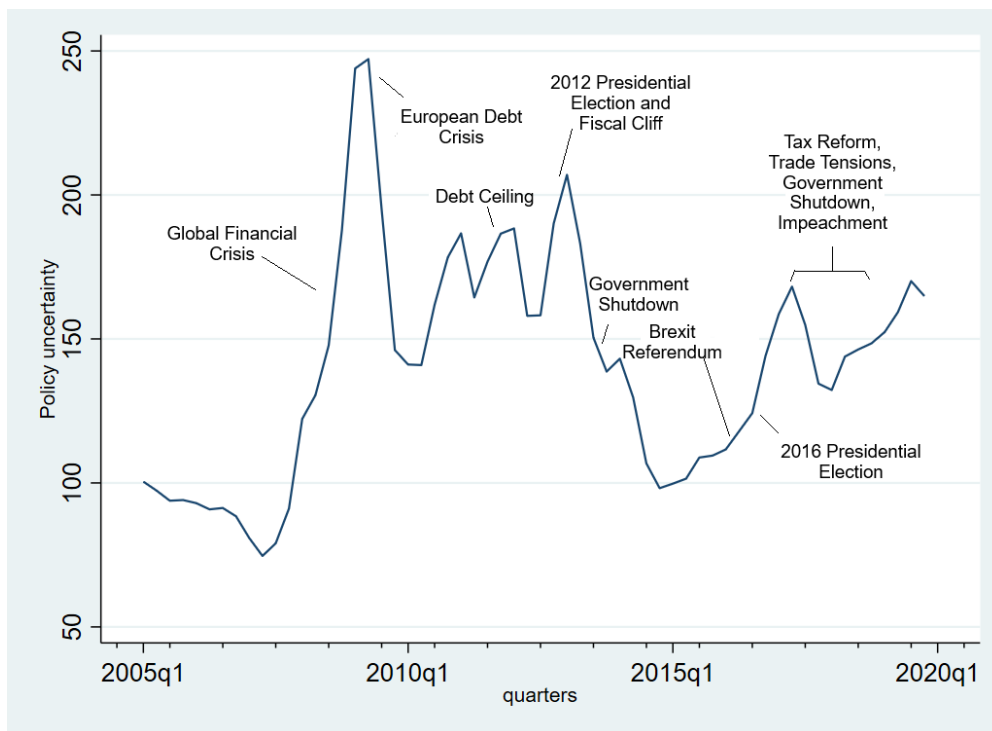
## 6.1 Figures and Tables

Figure 1: U.S. inbound investment: greenfield vs. cross-border M&As



*Notes:* Greenfield investment projects and cross-border M&A deals are plotted in 4-quarter moving averages of total numbers of projects from the top 21 source countries. Source: Authors' calculations, Financial Times Ltd. fDi Markets database, and SDC Platinum database. The events in the figure mirror those in Figure 2 and coincide with spikes in U.S. policy uncertainty.

Figure 2: U.S. local policy uncertainty



Notes: Local policy uncertainty index (EPU-C) in logs, reported as the mean of 50 U.S. states and in 4-quarter moving averages. Source: Authors' calculations and [Baker et al. \(2022\)](#)

Table 1: Summary Statistics

Panel A: Summary Statistics for Investor-State-Year-Mode of Entry Panel (Investor-Level Data)				
	Mean	SD	Min	Max
<i>With zeros :</i>				
<i>Number of Greenfield Investment Projects</i>	0.001	0.024	0	14
<i>Number of M&amp;A Deals</i>	0.001	0.024	0	6
<i>lnEPU</i>	4.888	0.372	3.691	5.828
<i>ΔlnEPU</i>	0.027	0.345	-0.815	1.690
<i>Δlnrgsp</i>	0.015	0.028	-0.163	0.200
<i>Δlnrwage</i>	0.007	0.012	-0.047	-0.073
<i>Previous Number GF Inv</i>	0.403	1.147	0	52
<i>Previous Number M&amp;A Inv</i>	0.338	1.118	0	96
<i>S&amp;P500 Index</i>	1723.185	595.857	948.050	2913.360
<i>Sample with positive investment :</i>				
<i>Number of Greenfield Investment Projects</i>	1.040	0.331	1	14
<i>Number of M&amp;A Deals</i>	1.050	0.260	1	6
Panel B: Summary Statistics for the Transaction-Level Data				
	Mean	SD	Min	Max
<i>I<sub>M&amp;A=1</sub></i>	0.558	0.497	0	1
<i>EPU</i>	146.823	64.162	13.767	500.793
<i>lnEPU</i>	4.898	0.432	2.622	6.216
<i>Δlnrgsp</i>	0.004	0.018	-0.078	0.090
<i>Δlnrwage</i>	0.005	0.023	-0.111	0.097
<i>Previous Number M&amp;A Inv</i>	3.133	5.528	0	52
<i>Previous Number GF Inv</i>	1.870	3.703	0	39
<i>Irreversibility</i>	-0.413	0.113	-0.862	-0.047
<i>ExitRate</i>	8.690	0.738	7.032	10.371
<i>TurnOverRate</i>	9.081	0.901	7.222	11.193
<i>RedTape</i>	1.844	0.257	1.096	2.369
<i>Corruption</i>	0.730	0.107	0.437	0.876

*Notes:* Panel A reports summary statistics for the number of foreign investment projects (cross-border M&A deals and greenfield investment projects) as well as the covariates for the firm-investment mode-state-year panel with 30,623,074 observations (including states with zero investment). The bottom part of Panel A reports summary statistics for this panel only with positive investor-state-year observations (based on 15,411 observations for the M&As and 15,389 for the GF investments).

Panel B presents summary statistics for the transaction level data (with investors doing both modes of investment) at the firm-state-quarter level used in the probability regressions with 6,025 observations.

Table 2: Impacts of Policy Uncertainty on the Number of Inbound Foreign Transactions: Annual Investor-Level Evidence

PPML Model – Dependent Variable: The Number of Inbound Foreign Transactions, $N_{isjt}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\Delta \ln EPU_{st} \times M\&A_j$	0.115*** (0.041)	0.123*** (0.042)	0.123*** (0.043)	0.124*** (0.042)	0.132*** (0.041)	0.116*** (0.041)	0.136*** (0.046)
$\Delta \ln EPU_{st} \times M\&A_j \times High \Delta \ln EPU_{st}$							-0.679*** (0.151)
$\Delta \ln EPU_{st} \times GF_j$	-0.084** (0.042)	-0.083** (0.040)	-0.090** (0.040)	-0.099** (0.042)	-0.094** (0.041)	-0.093** (0.039)	-0.093** (0.046)
$\Delta \ln EPU_{st} \times GF_j \times High \Delta \ln EPU_{st}$							-0.648*** (0.131)
<i>Previous Number M&amp;A Inv<sub>it</sub></i>		-0.152*** (0.010)	-0.150*** (0.010)	-0.155*** (0.010)	-0.155*** (0.011)	-0.156*** (0.010)	-0.155*** (0.010)
<i>Previous Number GF Inv<sub>it</sub></i>		-0.029*** (0.005)	-0.029*** (0.005)	-0.030*** (0.005)	-0.030*** (0.005)	-0.030*** (0.005)	-0.030*** (0.005)
$\Delta \ln rgsp_{st}$		0.216 (0.477)	0.127 (0.452)	0.488 (0.418)	0.175 (0.464)	0.505 (0.419)	0.506 (0.414)
$\Delta \ln rwage_{st}$		-1.253 (0.969)	-1.186 (0.961)	-0.755 (0.873)	-1.619 (0.999)	-0.782 (0.873)	-0.762 (0.873)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investment mode FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investor X State FE	No	No	Yes	Yes	Yes	Yes	Yes
Source country X Year FE	No	No	No	Yes	Yes	Yes	Yes
SP500 X State FE	No	No	No	No	Yes	Yes	Yes
Inv. Mode X High uncertainty FE	No	No	No	No	No	No	Yes
Pseudo $R^2$	0.151	0.155	0.033	0.040	0.039	0.051	0.040

Notes:  $\Delta EPU$  is the first difference of the (logged) annual composite economic policy uncertainty index (EPU-C).  $M\&A_j$  and  $GF_j$  are dummy variables that take on a value of 1 if the investment mode  $j$  is cross-border M&A and greenfield (GF), respectively.  $High\Delta \ln EPU_{st}$  is a dummy variable that takes on a value of 1 when  $\Delta EPU$  exceeds the 95th percentile of its distribution. The fixed effects used in each model are indicated in the table.

Column (7) includes interaction terms between the  $High\Delta \ln EPU_{st}$  indicator and the  $M\&A_j$  and  $GF_j$  dummies. The number of observations (including singletons) used in each regression is 30,623,074, with the following exception: Column (6) reports the results from the panel that excludes the observations where investor-state pairs have zero investment values and includes 533,227 observations. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% levels.

Table 3: Robustness: Annual Investor-Level Evidence

PPML Model- Dependent Variable: The Number of Inbound Foreign Transactions, $N_{isjt}$			
	(1)	(2)	(3)
$\Delta \ln EPU_{st}^N \times M\&A_j$	0.105*** (0.039)		
$\Delta \ln EPU_{st}^N \times GF_j$	-0.078** (0.038)		
$\Delta \ln EPU_{st}^S \times M\&A_j$		0.072** (0.028)	
$\Delta \ln EPU_{st}^S \times GF_j$		-0.064** (0.029)	
$election_{st} \times M\&A_j$			0.024 (0.022)
$election_{s,t-1} \times M\&A_j$			-0.006 (0.020)
$election_{st} \times GF_j$			0.016 (0.025)
$election_{s,t-1} \times GF_j$			-0.044** (0.021)
Previous Number M&A $Inv_{it}$	-0.155*** (0.011)	-0.155*** (0.011)	-0.155*** (0.011)
Previous Number GF $Inv_{it}$	-0.030*** (0.005)	-0.030*** (0.005)	-0.030*** (0.005)
$\Delta \ln rgsp_{st}$	0.249 (0.479)	0.265 (0.472)	0.180 (0.462)
$\Delta \ln rwage_{st}$	-1.626 (0.998)	-1.588* (0.957)	-1.587 (1.005)
State FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Investor FE	Yes	Yes	Yes
Investment mode FE	Yes	Yes	Yes
State trends	Yes	Yes	Yes
Source country X Year FE	Yes	Yes	Yes
Investor X State FE	Yes	Yes	Yes
Pseudo $R^2$	0.039	0.039	0.039

Notes:  $\Delta EPU$  is the first difference of the (logged) annual economic policy uncertainty index.  $EPU^S$  and  $EPU^N$  are the state and national components of the composite policy uncertainty index, respectively.  $M\&A_j$  and  $GF_j$  are dummy variables that take on a value of 1 if the investment mode  $j$  is cross-border M&A and GF, respectively. The number of observations used in each regression is 30,623,074. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10%, respectively.

Table 4: Policy Uncertainty and the Likelihood of M&A vs. GF Investment: Quarterly Transaction-Level Evidence

Linear Probability Model:	<i>Prob(Cross-border M&amp;A=1   X)</i>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All Investors		Multi-Mode Investors Only					
<i>lnEPU<sub>s,q-4</sub></i>	0.006 (0.007)	0.015** (0.006)	0.059** (0.024)	0.098*** (0.035)	0.106** (0.047)	0.101*** (0.037)	0.069** (0.027)	0.080** (0.036)
<i>lnEPU<sub>s,q-3</sub></i>	-0.001 (0.007)	-0.006 (0.006)	-0.017 (0.025)	-0.007 (0.027)	-0.067 (0.047)	-0.045 (0.035)		
<i>lnEPU<sub>s,q-2</sub></i>	0.004 (0.007)	0.004 (0.005)	0.029 (0.023)	0.077** (0.029)	0.072** (0.032)	0.025 (0.038)		
<i>lnEPU<sub>s,q-1</sub></i>	0.001 (0.008)	0.007 (0.006)	0.018 (0.025)	0.030 (0.034)	-0.017 (0.037)	0.031 (0.037)		
<i>Prev. Number M&amp;A Inv<sub>ist</sub></i>	0.001*** (0.000)	-0.001** (0.000)	-0.009*** (0.003)	-0.009*** (0.003)	-0.005 (0.005)	-0.004 (0.005)	-0.009*** (0.003)	-0.004 (0.004)
<i>Prev. Number GF Inv<sub>ist</sub></i>	-0.012*** (0.001)	0.003*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.015*** (0.003)	0.014*** (0.003)	0.020*** (0.004)	0.014*** (0.003)
<i>Δlnrgsp<sub>st</sub></i>	0.130 (0.149)	-0.151** (0.067)	-0.916*** (0.310)	-0.640 (0.407)	-0.200 (0.823)	-0.362 (0.643)	-0.679 (0.422)	-0.350 (0.650)
<i>Δlnrwage<sub>st</sub></i>	-0.087 (0.101)	0.073 (0.078)	0.140 (0.342)	0.357 (0.295)	0.754 (0.692)	0.681 (0.695)	0.367 (0.292)	0.633 (0.700)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investor FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State trends	Yes	Yes	Yes	No	No	Yes	No	Yes
State X Year FE	No	No	No	Yes	Yes	No	Yes	No
SP500 X Year FE	Yes	Yes	Yes	No	No	No	No	No
Source country X Year FE	No	No	No	Yes	Yes	Yes	Yes	Yes
Investor X State FE	No	No	No	No	Yes	Yes	No	Yes
<i>R</i> <sup>2</sup>	0.309	0.819	0.413	0.471	0.679	0.628	0.470	0.627

Notes: *ln EPU* is the log of quarterly composite economic policy uncertainty index (EPU-C). The number of observations in the baseline sample (all investors) is 40,840 and in the restricted sample (multi-mode investors only) is 6,319. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10%, respectively.

Table 5: Mechanisms: Quarterly Transaction-Level Evidence

	Linear Probability Model: $Prob(\text{Cross-border M\&A}=1   X)$					
	(1) Irreversibility	(2) Exit Rate	(3) Turnover Rate	(4) Red Tape	(5) Corruption	(6) Prev. Inv.
$\ln EPU_{s,q-4}$	0.215** (0.103)	-0.934*** (0.287)	-0.903*** (0.242)	-0.346 (0.221)	-0.197 (0.117)	0.110** (0.048)
$\ln EPU_{s,q-4} \times IRR_k$	0.452** (0.198)					
$\ln EPU_{s,q-4} \times ExitRate_s$		0.113*** (0.033)				
$\ln EPU_{s,q-4} \times TurnoverRate_s$			0.105*** (0.027)			
$\ln EPU_{s,q-4} \times RedTape_{st}$				0.213* (0.114)		
$\ln EPU_{s,q-4} \times Corruption_s$					0.344** (0.159)	
$\ln EPU_{s,q-4} \times Prev. Number M\&A_{ist}$						0.000 (0.004)
$\ln EPU_{s,q-4} \times Prev. Number GF_{ist}$						-0.011*** (0.003)
$Prev. Number M\&A Inv_{ist}$	-0.009*** (0.003)	-0.007*** (0.002)	-0.007*** (0.002)	-0.007*** (0.002)	-0.007*** (0.002)	-0.003 (0.023)
$Prev. Number GF Inv_{ist}$	0.027*** (0.004)	0.018*** (0.003)	0.018*** (0.003)	0.019*** (0.003)	0.018*** (0.003)	0.064*** (0.016)
$\Delta \ln rgs_{st}$	-0.718 (0.459)	-0.537 (0.452)	-0.511 (0.466)	-0.616 (0.477)	-0.499 (0.457)	-0.358 (0.639)
$\Delta \ln r_{wage}_{st}$	0.596 (0.445)	0.164 (0.410)	0.153 (0.413)	0.249 (0.405)	0.203 (0.408)	0.159 (0.827)
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes
State X Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Source country X Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry X State FE	Yes	Yes	Yes	Yes	Yes	Yes
Investor X State FE	No	No	No	No	No	Yes
$R^2$	0.639	0.640	0.640	0.639	0.639	0.775

Notes:  $\ln EPU$  is the quarterly composite economic policy uncertainty index (EPU-C) in natural logarithm. Industry fixed effects are at the 3-digit NAICS level. The number of observations in each sample (multi-mode investors only) is 6,319 except for column (1) where the size of the irreversibility measure restricts the sample to 4,622 observations. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10%, respectively.

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# Appendix

## A. Details of Theoretical Results

### A1. Parameter assumptions for investment mode cutoffs

Table A0: List of Parameters in the Theoretical Model

Parameter	Description
$\delta$	Fraction of investor's transferrable capabilities in a GF investment
$\eta$	Synergy factor: fraction of investor's transferrable capabilities in an M&A with target
$\alpha$	Nash bargaining parameter of local target in price negotiation
$F_g$	Fixed cost of initiating a GF investment
$\psi$	Search cost to find an M&A target
$\theta$	Elasticity of substitution between product varieties (CES parameter)
$\varepsilon$	Policy shock, $\ln \varepsilon \sim \mathcal{N}(0, \sigma^2)$
$\sigma^2$	Variance of policy shock
$\chi$	Aggregate demand constant: $\chi = \theta^{-\theta}(\theta - 1)^{\theta-1}P^{\theta-1}\Upsilon$

**Proposition.** *In Section 2, we consider the following conditions:*

1. *Greenfield (GF) investment requires a higher effective cost per unit of transferable capability than a merger and acquisition (M&A), i.e.,*

$$\frac{F_g}{\delta} > \frac{\psi}{\eta(1 - \alpha)}.$$

2. *GF projects have a large fixed cost relative to the search cost of finding a local partner in an M&A deal,*

$$F_g > \psi.$$

3. *The transferable capability is greater under GF investment than under M&A deals,*

$$\delta > \eta(1 - \alpha),$$

*i.e., M&A capabilities are effectively reduced due to limited synergies or bargaining power.*

*If (1)-(3) hold, then the productivity threshold at which a firm strictly prefers greenfield investment over M&A exceeds the threshold at which greenfield investment becomes viable:*

$$z_{GF}^* > z_{GF,0}.$$

*Proof.* From the model in Section 2 and under the assumption  $\theta = 2$ , the relevant expressions are:

$$z_{GF,0} = \frac{F_g}{\chi\delta} e^{\frac{\sigma^2}{2}},$$

$$z_{GF}^* = \left( \frac{F_g - \psi}{\chi[\delta - \eta(1 - \alpha)]} \right) e^{\frac{\sigma^2}{2}}.$$

We want to show:

$$z_{GF}^* > z_{GF,0} \iff \frac{F_g - \psi}{\delta - \eta(1 - \alpha)} > \frac{F_g}{\delta}.$$

Cross-multiplying:

$$(F_g - \psi)\delta > F_g[\delta - \eta(1 - \alpha)]$$

$$F_g\delta - \psi\delta > F_g\delta - F_g\eta(1 - \alpha)$$

$$-\psi\delta > -F_g\eta(1 - \alpha)$$

$$\psi\delta < F_g\eta(1 - \alpha),$$

which is equivalent to:

$$\frac{F_g}{\delta} > \frac{\psi}{\eta(1 - \alpha)}.$$

Therefore, under this assumption, we conclude that  $z_{GF}^* > z_{GF,0}$ . □

## A2. Comparative Statics under Uniform Distribution

We now examine how policy uncertainty influences firms' investment choices. Specifically, we evaluate how the probability that a firm selects M&A over GF investment responds to changes in the uncertainty parameter  $\sigma^2$ . This analysis builds directly on the assumptions stated in the above Section A1.

Assume that firm productivity  $z_i$  is uniformly distributed over the interval  $[0, z_H]$ , where  $z_H$  is finite. We are interested in the probability that a firm's productivity falls between the two relevant thresholds:

$$\Pr(z_{MA,0} \leq z_i \leq z_{GF}^*).$$

**Probability of choosing M&As as opposed to GF.** The cumulative distribution function (CDF) of the uniform distribution is:

$$G(z) = \frac{z}{z_H}, \quad \text{for } z \in [0, z_H].$$

Hence, the probability that a firm's productivity lies between the two thresholds is:

$$\Pr(z_{MA,0} \leq z_i \leq z_{GF}^*) = \frac{z_{GF}^* - z_{MA,0}}{z_H},$$

where the investment cutoffs are:

$$z_{GF}^* = \left( \frac{F_g - \psi}{\chi[\delta - \eta(1 - \alpha)]} \right) e^{\frac{\sigma^2}{2}},$$

$$z_{MA,0} = \left( \frac{\psi}{\chi\eta(1 - \alpha)} \right) e^{\frac{\sigma^2}{2}}.$$

Substituting these expressions into the probability formula, we obtain:

$$\Pr(z_{MA,0} \leq z_i \leq z_{GF}^*) = \frac{1}{z_H} \cdot e^{\frac{\sigma^2}{2}} \cdot \left( \frac{F_g - \psi}{\chi[\delta - \eta(1 - \alpha)]} - \frac{\psi}{\chi\eta(1 - \alpha)} \right).$$

**The impact of uncertainty on M&A choice.** Differentiating the probability with respect to  $\sigma^2$ , we get:

$$\begin{aligned} \frac{\partial}{\partial \sigma^2} \Pr &= \frac{1}{2z_H} \cdot \frac{1}{\chi} \cdot \left( \frac{(F_g - \psi)\eta(1 - \alpha) - \psi[\delta - \eta(1 - \alpha)]}{[\delta - \eta(1 - \alpha)] \cdot \eta(1 - \alpha)} \right) e^{\frac{\sigma^2}{2}} \\ &= \frac{1}{2z_H} \cdot \frac{\eta(1 - \alpha)F_g - \psi\delta}{\chi[\delta - \eta(1 - \alpha)] \cdot \eta(1 - \alpha)} e^{\frac{\sigma^2}{2}}. \end{aligned}$$

Since  $e^{\frac{\sigma^2}{2}} > 0$  and the denominator is strictly positive under the assumptions in Section A1, the sign of the derivative depends on the numerator:

$$\eta(1 - \alpha)F_g - \psi\delta > 0 \quad \iff \quad \frac{F_g}{\delta} > \frac{\psi}{\eta(1 - \alpha)}.$$

This condition is precisely Assumption 1 in Appendix Section A1 above. Therefore, under the model's parameter restrictions, the derivative is strictly positive: greater policy uncertainty increases the probability that a firm prefers M&A over greenfield investment.

## B. List of source countries

Australia, Belgium, Canada, China, Denmark, Finland, France, Germany, Hong Kong, India, Ireland, Israel, Italy, Japan, Mexico, Netherlands, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, United Kingdom.

## C. Creating firm-level data by matching investors from the transaction-level greenfield investment and cross-border M&A data

The greenfield investment data and cross-border M&A data list firm (investor) names as a string variable, sometimes imperfectly coded. For example, some firm names are abbreviated, have a typo, or are capitalized. Also, parent firms may be listed along with their subsidiaries and appear under different names. To create a sample of unique firms engaged in two modes of investment, we consider the following steps in Stata17:

1. From both greenfield and M&A datasets, we first remove the high-frequency words, such as "Corp.", "Corporation", "Inc.", "Holdings", as well as industry-specific words such as "Chemical", "Insurance", "Laboratories" etc. since they may potentially lead to false positive matches. Further, keeping source country information in the datasets helps us filter out different investors from different source countries.
2. Using the Stata *matchit* function with the option of *3-grams* and a minimum *similscore* set at 0.5, we perform a match between two datasets to obtain the list of common investor names. Different options can be selected in this step depending on the issues in the data (e.g., frequent typos or abbreviations). Performing a manual check at the final step is necessary, so the options chosen in this step should not matter for the accuracy of the final match.
3. Once the match is complete, we assign unique IDs to each investor.
4. We merge the data with the original greenfield and M&A datasets to obtain the complete dataset.
5. Finally, we perform a manual check of the entire dataset to correct matching errors. From step 2, these are mainly false negative matches and, to some extent, false positive matches. Especially in the case of abbreviated investor names, there may be apparent errors that need to be corrected. For several cases, we make the following assumption. We match a parent firm with its subsidiaries unless they are matched in step 2. We also match subsidiaries under a unique firm ID even when the parent firm is not listed. Sometimes, these subsidiaries may be from different industries. Still, since these subsidiaries make cross-border investment decisions under the management of their parent firm, we consider it safe to assume that they will have a common firm fixed effect in our analysis. Finally, in a few cases, a firm's name might have changed after a merger. For these cases, we also assign a unique ID. In many cases, a Google search may need to be performed to make the correct judgment.

## D. Tables

Table A1: Impacts of Policy Uncertainty on the Number of Inbound Foreign Transactions: Annual Investor-Level Evidence

Dependent Variable: The Number of Inbound Foreign Transactions, $N_{isjt}$				
	(1)	(2)	(3)	(4)
$\Delta \ln EPU_{st}$	-0.084** (0.042)	-0.083** (0.040)	-0.090** (0.040)	-0.094** (0.041)
$\Delta \ln EPU_{st} \times M\&A_j$	0.200*** (0.058)	0.206*** (0.057)	0.214*** (0.055)	0.226*** (0.056)
Previous Number M&A $Inv_{it}$		-0.152*** (0.010)	-0.150*** (0.010)	-0.155*** (0.011)
Previous Number GF $Inv_{it}$		-0.029*** (0.005)	-0.029*** (0.005)	-0.030*** (0.005)
$\Delta \ln rgsp_{st}$		0.216 (0.477)	0.127 (0.452)	0.175 (0.464)
$\Delta \ln rwage_{st}$		-1.253 (0.969)	-1.186 (0.961)	-1.619 (0.999)
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Investor FE	Yes	Yes	Yes	Yes
Investment mode FE	Yes	Yes	Yes	Yes
State trends	Yes	Yes	Yes	Yes
Investor X State FE	No	No	Yes	Yes
Source country X Year FE	No	No	No	Yes
Pseudo $R^2$	0.151	0.155	0.033	0.039
Model	PPML	PPML	PPML	PPML

Notes:  $\Delta EPU$  is the first difference of the (logged) annual composite economic policy uncertainty index (EPU-C).  $M\&A_j$  is a dummy variable that take on a value of 1 if the investment mode  $j$  is cross-border M&A, and 0 if GF. The fixed effects used in each model are indicated in the table above. The number of observations (including singletons) used in each regression is 30,623,074. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10%, respectively.

Table A.2: Policy Uncertainty and the Likelihood of M&A vs. GF Investment: Quarterly Transaction-Level Evidence

	Linear Probability Model: $Prob(\text{Cross-border M\&A}=1   X)$				
	All Investors	Multi-Mode Investors Only			
	(1)	(2)	(3)	(4)	(5)
$\ln EPU_{s,q-1}$	0.006 (0.006)	0.013 (0.026)	0.026 (0.036)	-0.031 (0.039)	0.022 (0.038)
$\ln EPU_{s,q-2}$	0.004 (0.005)	0.032 (0.022)	0.076** (0.029)	0.059* (0.034)	0.020 (0.040)
$\ln EPU_{s,q-3}$	-0.006 (0.006)	-0.020 (0.025)	-0.007 (0.027)	-0.059 (0.045)	-0.037 (0.036)
$\ln EPU_{s,q-4}$	0.014** (0.006)	0.057** (0.027)	0.092** (0.037)	0.087* (0.051)	0.077* (0.039)
$\ln EPU_{s,q-5}$	0.005 (0.006)	0.015 (0.025)	0.026 (0.029)	0.084* (0.048)	0.067 (0.041)
$\ln EPU_{s,q-6}$	-0.003 (0.007)	-0.007 (0.027)	0.006 (0.037)	0.033 (0.060)	-0.003 (0.037)
$\Delta \ln rgs_{st}$	-0.157** (0.064)	-0.941*** (0.313)	-0.666 (0.405)	-0.286 (0.779)	-0.450 (0.604)
$\Delta \ln rwage_{st}$	0.069 (0.077)	0.126 (0.348)	0.333 (0.311)	0.641 (0.700)	0.610 (0.692)
<i>Prev. Number GF Inv<sub>ist</sub></i>	0.003*** (0.001)	0.020*** (0.004)	0.020*** (0.004)	0.015*** (0.003)	0.014*** (0.003)
<i>Prev. Number M&amp;A Inv<sub>ist</sub></i>	-0.001** (0.000)	-0.009*** (0.003)	-0.009*** (0.003)	-0.005 (0.004)	-0.004 (0.004)
State FE	Yes	Yes	Yes	No	No
Year FE	Yes	Yes	Yes	Yes	Yes
Investor FE	Yes	Yes	Yes	No	No
State trends	Yes	Yes	No	No	Yes
State X Year FE	No	No	Yes	Yes	No
SP500 X Year FE	Yes	Yes	No	No	No
Source country X Year FE	Yes	Yes	Yes	Yes	Yes
Investor X State FE	No	No	No	Yes	Yes
$R^2$	0.819	0.415	0.471	0.680	0.628

Notes:  $\ln EPU$  is the log of quarterly composite economic policy uncertainty index (EPU-C). The number of observations in the baseline sample (all investors) is 40,840 and in the restricted sample (multi-mode investors only) is 6,319. Robust standard errors clustered at the state level are reported in parentheses. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10%, respectively.