Learning the Ropes? Executive Experience and Location Choices of Multinational Firms

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Abstract: What makes firms invest in foreign countries? This paper shows that beyond country- and firm-specific characteristics, executive experience is crucial to understand multinational enterprises' location choices. Using data on US-listed firms and an event study, I find that hiring an executive having multinational experience with a given country increases the firm's probability to own subsidiaries in this country. The effect also holds at the intensive margin. Moreover, only country-specific experience is determinant, top C-level executives such as chief executive officers drive the results, and experience in managing multinational activities commands a compensation premium. A series of robustness checks corroborate these observations. Overall, the findings reveal that executives develop country-specific knowledge while working for multinationals, a valuable asset in the labor market, and significantly help companies expand abroad.

Keywords: Foreign direct investments, multinational firms, subsidiaries, executives, experience, mobility.

JEL codes: F16, F23, H26, J62, M12.

1 Introduction

What makes enterprises invest abroad? Attracting and encouraging foreign direct investments (FDIs) has long been a priority for governments. To benefit from technology transfers, increase employment, and stimulate growth, countries have been using a number of foreign investment incentives (e.g., tax relief, subsidies, credits, preferential contracts, special economic zones). For firms, opening subsidiaries overseas is a difficult and risky step. It has for example been shown that only the most productive firms have the resources to become multinational (Helpman, Melitz, and Yeaple, 2004) and that companies experiment with exports before engaging in FDIs due to uncertainty about profitability in foreign markets (Conconi, Sapir, and Zanardi, 2016). Executives, as strategic decision-makers, probably play a key role in the internationalization process. There is vast anecdotal evidence suggesting that their knowledge and experience substantially contribute to firms' international activities. [1] Systematic evidence on this, however, is relatively scarce. This paper fills this gap and confirms that executives bolster multinationals' international expansion. I isolate the effect of one characteristic: their experience in managing multinational operations. I demonstrate that executives acquire country-specific knowledge and offer it to help their current company broaden its network of subsidiaries in the countries where the enterprises they worked for had subsidiaries themselves.

In the first part of the paper, I assemble data on executives, financial statements, and subsidiaries of firms listed on the Standard & Poor's (S&P) 1500 index between 1993 and 2013. The data originate from three sources: Compustat, ExecuComp, and Exhibit 21 filings. Compustat provides balance sheets, income statements, and cash flows of US-

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1. In 2015, Black Box, a multinational corporation specialized in communications products and listed on the NASDAQ index, nominated two new executives "*to drive sales growth for the key Europe Middle East and Africa (EMEA) region and Japanese markets*". Hans-Peter Kuhnert was appointed Vice President of Sales for the Europe Middle East and Africa region, and Koichiro Fukumoto was appointed Country Manager for Japan. In a press release distributed by Business Wire, the firm states: "*Hans-Peter and Koichiro are important appointments for Black Box as they bring extensive experience and add the necessary leadership that will help us to accelerate sales growth. [...] Mr. Kuhnert joins Black Box from Rohde & Schwarz where he helped to implement a global indirect sales channel structure. At Tektronix he held the position of vice president of sales and operations for the instrument and solutions business in the EMEA region. He also held various senior management positions with technology leaders Hewlett-Packard and Agilent. Prior to joining Black Box, Mr. Fukumoto was President and CEO of a Japanese distributor of electronic test and measurement products from global suppliers. He joined the company as a sales engineer and held several senior leadership positions and a board position for over 20 years prior to his tenure as President and CEO.*" More details here: https://www.businesswire.com/news/home/20150303005074/en/Black-Box-Announces-New-Executive-Appointments-International.

listed firms, while ExecuComp informs on the function and compensation of executives in S&P 1500 companies. The two databases, quite standard in the economics, finance, international business, and management literatures, allow tracking the mobility of executives between S&P 1500 firms. Exhibit 21 data, on the other hand, are more rarely used. The Securities and Exchange Commission (SEC) requires US-listed companies to disclose every year a list of their subsidiaries and the reports are publicly available on its website. On this basis, I compile a dataset indicating, for each firm and each year, the number of subsidiaries in each country as well as the number of executives having multinational experience with this country. The database is constructed at the firm-country-year level. The analysis therefore departs from prior work insofar as the data, more disaggregated, make it possible to look at the effect of country-specific executive experience on FDIs. The second part of the paper consists of an event study. I scrutinize the evolution of the number of subsidiaries a firm declares in a country before and after recruiting an experienced executive. This approach enables me to quantify the effect of recruiting an executive familiar with a given country on the number of subsidiaries in this country. Thanks to the fine level of the data and a collection of three-way fixed effects, the effect is clean from many confounding factors. Firm-year fixed effects control for all time-invariant and time-variant firm-level determinants of FDIs. These determinants include (but are not limited to) firm productivity and firm size. They further absorb fixed and year-specific attributes of executives, inclusive of age, education, and within-firm experience. They are coupled with country-year and firm-country fixed effects. The former capture labor costs, market size, fiscal incentives and all other country-specific features influencing firms' FDIs. Firm-country fixed effects incorporate for their part all firm-country factors driving firms' location choices like distance between the foreign country and the headquarters and firm-country specific knowledge and experience. In total, the fixed effects ensure to pick up the effect of country-specific experience gained by executives and not the effect of unobserved variables not attributable to the professional background of these individuals.

The baseline equation puts the accent on the extensive margin of FDIs. The regression results show that hiring an executive having worked for a firm present in a particular country at the time augments the probability to be implanted in this country by 2.3 percentage points, i.e., 52 percent. Interestingly, the reverse is not true. Departures of experience executives do not prompt firms to exit foreign markets. It thus appears that executive experience eases FDIs via a reduction of the (sunk) cost of entry, whose existence has been

acknowledged in the literature (Helpman et al., 2004; Kimura and Kiyota, 2006; Greenaway and Kneller, 2007). These findings are validated by numerous robustness checks. They hold when removing possible outliers (either some firms or some countries), adopting different estimation methodologies (both linear probability and binary models), and adjusting for potential measurement errors. Notably, they hold after controlling for executives' origin, inferred through web scraping (via *FamilySearch*) or machine learning algorithms (via NamePrism).

I then discuss endogeneity concerns. The benchmark result highlights a strong relationship between appointments of experienced executives and firm entry in foreign markets. A caveat is that firms might make other firm-country-year investments before engaging in FDIs. Such firm-country-year investments are unobserved and cannot be accounted for. Hence, the results could still be attributable to these shocks. Two arguments dismiss this conjecture. The dynamics and more precisely the parallel trends are reminiscent of a causal effect. In addition, executives with multinational experience receive a higher compensation all other things being equal. It means that hiring experienced executives is costly. Companies strategically invest in this knowledge because they expect it to raise their future profits. All the same, I conduct four tests to further support the existence of a causal effect. First, I carry out a placebo test to guarantee that there are no pre-existing trends in firms' presence overseas. Beyond confirming the common trend assumption, the absence of pre-trends implies that the treatment is unlikely to be correlated with past firm-country-year shocks and other omitted variables. Second, I borrow the identification strategy of Mion and Opromolla (2014) and use the number of experienced executives three years prior as an instrument. The underlying assumption is that new appointments have no effect on the network of subsidiaries after three years, for which I provide suggestive evidence. The two-stage least squares (2SLS) results align with the reference results. Third, I consult official reports and use Factiva to go through newspapers, newswires, and press releases. The objective is to see what motivates executives' movements across firms. The material lets us know whether some of the movements observed throughout the period are precipitated by abrupt resignations, retirements, deaths, sudden layoffs, or resignations and layoffs subsequent to legal investigations. I treat these movements as an exogenous source of variation in the number of experienced executives. I assume that changes in the stock of experienced executives are less likely to be correlated with unobserved shocks if they are triggered by the executives themselves or unforeseen cir-

cumstances. The new results concur in terms of economic and statistical significance. Finally, I exploit the US conferral of Permanent Normal Trade Relations (PNTR) status on China in late 2000 as a quasi-natural experiment. The literature has documented that policy uncertainty dampens trade, corporate investment, and FDIs, and that this event largely reduced trade policy uncertainty between the US and China (Gulen and Ion, 2016; Pierce and Schott, 2016; Handley and Limão, 2017; Choi, Furceri, and Yoon, 2020; Wu, Zhang, Wu, and Kong, 2020). Accordingly, we expect the firms that were the most exposed to trade policy uncertainty before the granting to invest more in China in response to the shock (in comparison to their peers). If we believe that experience of managers truly affects companies' presence abroad, we also expect this reaction to be stronger for firms having executives used to pilot multinational operations with China. Both predictions are validated by using a subsample of enterprises in which the number of managers familiar with China stayed constant between 1995 and 2005.

The aforementioned tests back up the existence of a causal effect, but causality is not the focal point of the present article. Rather, what seems more important is to comprehend how executive experience fosters multinational operations. Five exercises are then performed to supplement the benchmark results. In the first one, I explore whether executive experience has to be necessarily country-specific or if experience in managing operations with any foreign country can still help firms reach new markets. The results stand for the first proposition. Put otherwise, executives coming from corporations owning subsidiaries in Belgium do not significantly spur FDIs in France or Germany. In the second exercise, I allow for heterogeneous effects across executives. Because chief executive officers (CEOs), chief financial officers (CFOs), chief marketing officers (CMOs), and chief operating officers (COOs) are the highest-level executives and make the high-stake decisions, I study whether their experience plays a bigger role in the firm internationalization process. I find that country-specific experience of top C-level executives greatly contributes to FDIs. That of the remaining executives, in contrast, has no or little incidence. In the third exercise, I examine whether the effect persists at the intensive margin. I find a similar pattern on the number of subsidiaries abroad conditional on having at least one subsidiary in the foreign country. Experienced executives thus help companies not only to penetrate new foreign countries but also to intensify their presence where they are already implanted. In the fourth exercise, I investigate whether executives used to oversee multinational operations receive higher compensations. Evidence points in this direction.

Holding other things constant, FDI-related experience commands a 37.4 percent compensation premium. Firms consequently compete for this rare skill in a labor market with short supply (Sauvagnat and Schivardi, 2020).They invest in such executives insofar as they expect higher returns in specific foreign countries. In the final exercise, I center the analysis on a peculiar set of countries: tax havens. Workhorse international trade theories predict that FDIs should be directed toward large and central countries (Brainard, 1993; Head and Mayer, 2004). Yet, the tax-friendly environment offered by tax havens generates a disproportionately high concentration of US-listed firms in these countries despite their small size and remoteness (Souillard, 2021). Again, the effect of executive experience remains positive and significant for different classifications of tax havens.

The findings complement the existing literature in two dimensions. They emphasize the influence of executives in the expansion of multinational corporations. Their experience is a valuable asset and improves firm performance in international markets. In this regard, it should be noted that only the experience of C-suite executives is determinant and only country-specific experience seems to matter for FDIs. Moreover, the findings reveal that executive mobility is one of the channels through which FDI-related knowledge propagates across firms. This is highly relevant from a policy viewpoint. In recent years for instance, corporate tax avoidance has become a salient policy issue and discussions have been taking place at the international level to limit the profit shifting activities of multinational enterprises. Against this background, the paper suggests that C-level executives tend to assimilate and replicate the tax dodging strategies of their firms. Therefore, inspecting movements of top executives could be useful to predict companies' future use of tax havens. Devoting more resources to audit firms hiring top executives previously employed by enterprises involved in tax havens might possibly facilitate the fight of public authorities against aggressive tax planning.

The remainder of the paper is structured as follows. Section 2 reviews the related literature and situates the paper within this body of research. The ensuing sections are dedicated to the analysis. Section 3 describes the construction of the database and the final sample. Section 4 lays out the empirical strategy, discusses the challenges associated with it, presents the main result, and assesses its robustness. Section 5 provides more insights into the role of executive experience in FDIs. Section 6 finally concludes.

2 Literature and contribution

2.1 Determinants of FDIs

The paper resonates with four distinct strands of the literature. First, an old line of inquiry has examined what promotes FDIs. The importance of labor costs, market access, tariffs, institutions, political risk, tax rates, firm productivity, and firm size, to mention only a few, has largely been established. I refer to Antràs and Yeaple (2014) and Blonigen and Piger (2014) for surveys of these determinants. Nevertheless, most of the determinants hitherto uncovered are either country- or firm-specific. The present paper takes advantage of rich data to open a black box and separate what comes from the firm *per se* and what comes from its executives. On top of country- and firm-specific characteristics, the study demonstrates that those of top executives, and more precisely their experience, are essential to shaping business operations and the network of multinational corporations. It is widely recognized that FDIs induce sunk costs (Helpman et al., 2004; Kimura and Kiyota, 2006; Greenaway and Kneller, 2007). Enterprises interested in setting up subsidiaries in foreign countries must incur the cost of market research, create new distribution networks, etc. To the extent that the venue of experienced executives boosts FDIs but their departure is not detrimental, the results suggest that executive experience reduces this sunk cost of FDIs. They unveil at the same time a new mechanism whereby FDI-related knowledge spills over across firms: top executives' mobility (Demena and van Bergeijk, 2017). Besides generating productivity gains (Balsvik, 2011), top executives arriving from multinational companies assist firms in carrying out FDIs.[2]

2.2 Management and firm performance in international markets

A more recent stream of the literature has shown that management practices affect firm performance in international markets. Among others, Parrotta, Pozzoli, and Sala (2016) and Marchal and Nedoncelle (2019) find evidence of an export-enhancing effect of ethnic diversity and immigrant workers. The effect, according to the authors, stems from the fact that ethnic diversity and immigrant workers enrich firms' relational capital, convey

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2. It is worth noting that the effect of executive experience quantified in this paper does not take into account the indirect impact of executive experience on FDIs passing through firm productivity. In a sense, the point estimates could thus be seen as lower-bound estimates.

information on foreign markets, and increase firms' productivity.[3] The papers of Mion and Opromolla (2014), Choquette and Meinen (2015), Sala and Yalcin (2015), Meinen, Parrotta, Sala, and Yalcin (2018), Mion, Opromolla, and Sforza (2019), and Lööf and Viklund-Ros (2020) are along the same lines and more closely related to the present paper as they focus on managers and directors. They argue that these individuals gain experience in exporting activities and spur their current enterprise's exports to the countries they are familiar with.[4] Lenoir and Patault (2019) go a step further. In the same spirit, they exploit French firm-to-firm export data to show that sales managers build buyer-specific knowledge and transmit this knowledge to the companies they join. The present article extends the aforementioned ones by looking at another dimension of firm performance in international markets, namely FDIs. While several studies in the international business and management literatures have delved into the nexus between CEO experience, firm performance, and FDIs (Herrmann and Datta, 2006; Boermans and Roelfsema, 2013; Cui, Li, Meyer, and Li, 2015; Hamori and Koyuncu, 2015; Le and Kroll, 2017; Li and Patel, 2019), mine leverages a finer database. This improvement allows providing additional insights into the role played by executive experience. Notably, the paper is the first to outline that only country-specific experience of C-suite executives is pivotal.

2.3   Determinants of executive compensation

A body of the literature has examined the determinants of executives' compensations (Gabaix and Landier, 2008; Graham, Li, and Qiu, 2012) and identified the existence of a wage gap between employees in multinational enterprises, exporting firms, and domestic firms (Heyman, Sjöholm, and Tingvall, 2007; Hijzen, Martins, Schank, and Upward, 2013; Helpman, Itskhoki, Muendler, and Redding, 2017; Schroeder, 2019). The latter is referred to as the "multinational/exporter wage premium." The present paper might help better understand what lies behind the multinational wage premium and the disparities in compensations across executives. It suggests that experience in handling transnational affairs matters as it confers a compensation premium. It mechanically implies that the multinational wage premium can sometimes be inflated by the omission of one variable in the Mincer equations, FDI-related knowledge developed while working for multinational firms, which I find valuable in the labor market.

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3. See Moriconi, Peri, and Pozzoli (2020) for comparable figures with firms' offshoring decisions.
4. Bisztray, Koren, and Szeidl (2018) uncovers a similar pattern with firm imports.

2.4 Determinants of profit shifting

Last but not least, this paper expands the literature on the determinants of profit shifting. There is a paucity of research investigating how executives drive corporate tax avoidance. In a seminal paper, Dyreng, Hanlon, and Maydew (2010) point out that fixed characteristics of executives play a key role in aggressive tax planning, thereby revealing that it is not influenced solely by countries' and firms' characteristics *per se*. Follow-up studies highlight specific features of managers and directors such as connection to a tax office (Zhao, Meng, Taylor, and Richardson, 2021), conservatism (Christensen, Dhaliwal, Boivie, and Graffin, 2015), foreign experience (Wen, Cui, and Ke, 2020), military experience (Law and Mills, 2017), narcissism (Olsen and Stekelberg, 2016), and sports hobbies (Luo, Shevlin, Shi, and Shih, 2021). This paper underlines the effect of executive experience with tax havens. On the same note, it contributes to the flourishing literature analyzing how profit shifting strategies disseminate across firms (Souillard, 2021). Earlier work has pointed out that tax avoidance practices spread via auditors (Frey, 2018; Lim, Shevlin, Wang, and Xu, 2018), banks (Gallemore, Gipper, and Maydew, 2019), board ties (Brown, 2011; Brown and Drake, 2014), strategic alliances (Muller and Weinrich, 2020), supply chains (Cen, Maydew, Zhang, and Zuo, 2017), and tax departments' workers mobility (Barrios and Gallemore, 2019). The present article especially echoes the one of Barrios and Gallemore (2019). They note that firms avoid taxes to a larger degree when they recruit employees coming from firms with relatively low cash effective tax rates. In this paper, I concentrate on one of the most aggressive forms of corporate tax avoidance, profit shifting and tax haven FDIs. More importantly, I elaborate on how executive mobility propagates tax dodging practices across firms. Armed with a unique dataset, I disentangle time-variant and time-invariant characteristics of executives and prove in a systematic way that these individuals bring and put their experience with tax havens at the service of their firm.

3 Data

I combine three distinct data sources to build a rich dataset on S&P 1500 firms' executives and foreign subsidiaries. This section describes each of the sources as well as the final sample.

FIGURE 1 – Construction of the database
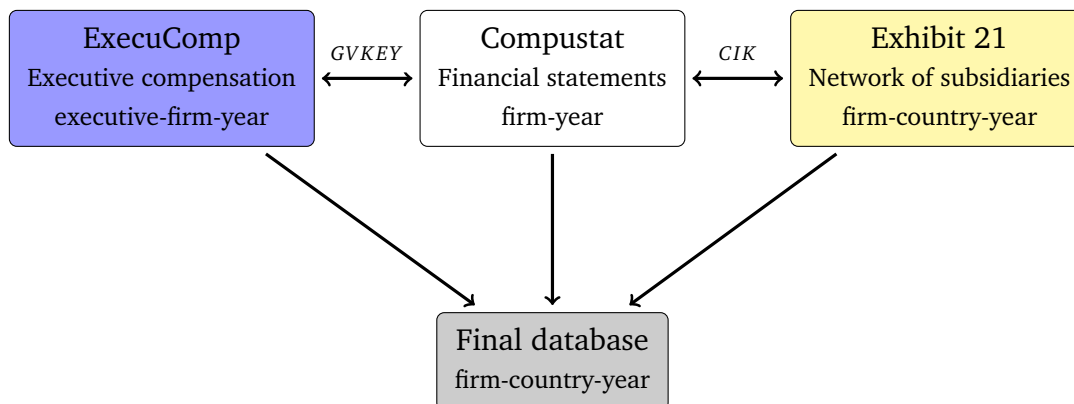
3.1 Data sources

Compustat Compustat North America contains extensive information on balance sheets, income statements, and cash flows of publicly listed companies in North America since 1950. The vast coverage and the richness of the information explain why Compustat is widely used in the literature. The fact that Compustat includes publicly listed companies proves particularly useful for this study because they are the most prone to undertake FDIs. Although US-listed companies represent a small share of all companies operating in the country, they are the largest ones and contribute 30 percent to total employment and 40 percent to aggregate sales (Asker, Farre-Mensa, and Ljungqvist, 2014). In addition, the literature predicts that only large and productive companies can afford and find profitable to pay the cost of FDIs (Helpman et al., 2004). The key Compustat variables used for the study are the unique identifiers $GVKEY$ and CIK. They allow connecting the two other databases on executives and subsidiaries (see figure 1). Financial data are left aside because they will be fully accounted for in the econometric exercise through firm-year fixed effects.

ExecuComp ExecuComp, as the name hints, gives background information (e.g., age, gender, and title) and comprehensive details about the compensation of executives (salary, bonuses, stock and option awards, non-equity incentive plans, pensions, and all other pay). The database is composed of the firms listed on the S&P 1500 index starting from 1992.[5] They encompass approximately 90 percent of US market capitalization.

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5. More precisely, ExecuComp encompasses, in addition to S&P 1500 firms, firms that were once part of the index, firms removed from the index but that are still trading, and a few other firms. Data collection

TABLE 1 – List of foreign countries (3-digit ISO codes)

AFG, AGO, ALB, ARE, ARG, ARM, ASM, AUS, AUT, AZE, BDI, BEL, BEN, BFA, BGD, BGR, BIH, BLM, BLR, BOL, BRA, BRN, BWA, CAN, CCK, CHL, CHN, CIV, CMR, COD, COL, CUB, CXR, CZE, DEU, DJI, DNK, DOM, DZA, ECU, EGY, ERI, ESP, EST, ETH, FIN, FJI, FLK, FRA, FSM, GAB, GBR, GHA, GIN, GLP, GMB, GNQ, GRC, GRL, GTM, GUF, GUM, HMD, HND, HRV, HTI, HUN, IDN, IND, IRN, IRQ, ISL, ISR, ITA, JAM, JPN, KAZ, KEN, KGZ, KHM, KIR, KOR, KWT, LAO, LBY, LKA, LSO, LTU, LVA, MAR, MDA, MDG, MEX, MKD, MLI, MMR, MNG, MNP, MRT, MTQ, MWI, NAM, NCL, NER, NGA, NIC, NLD, NOR, NPL, NZL, OMN, PAK, PER, PHL, PLW, PNG, POL, PRI, PRT, PRY, PSE, PYF, QAT, REU, ROU, RUS, RWA, SAU, SDN, SEN, SGS, SLE, SLV, SOM, SPM, SRB, SUR, SVK, SVN, SWE, SWZ, SYR, TCD, TGO, THA, TJK, TKM, TLS, TON, TTO, TUN, TUR, TUV, TWN, TZA, UGA, UKR, UMI, URY, UVK, UZB, VEN, VNM, WLF, YEM, ZAF, ZMB, ZWE.

As a consequence, ExecuComp enables us to track executives over time and across the largest US-listed firms.

Exhibit 21 The third and last data source is used to retrieve information on US-listed firms' subsidiaries. I capitalize on the fact that all companies listed on a US stock exchange are required by the SEC to disclose, each year in Exhibit 21 of Form 10-K, their significant subsidiaries. A subsidiary is deemed significant if its assets exceed 10 percent of consolidated assets or if its income exceeds 10 percent of consolidated income. Moreover, any subsidiary is significant if by combining all undisclosed subsidiaries into one fictive subsidiary, the latter exceeds 10 percent of assets or revenues.[6] In other words, Exhibit 21 filings reflect where more than 90 percent of US-listed firms' assets and revenues are booked. They therefore draw an accurate picture of the worldwide network of S&P 1500 firms' subsidiaries at the country-year level. Interestingly, the reports are publicly available on the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) platform and have been electronically filed since 1993, so the data can easily be obtained and extracted. Figure 2 gives a snapshot of the list of subsidiaries reported by the firm Johnson & Johnson in 2011. I will hereby employ an updated version of the dataset produced by Dyreng and Lindsey (2009) that spans the 1993-2013 period and abstract from non-significant subsidiaries due to data limitations.

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on the entire S&P 1500 index began in 1994 but some firms were tracked as of 1992.

6. Note that firms are not obliged to uncover financial information about their subsidiaries. Relatedly, although firms might have incentives not to expose some subsidiaries, especially those located in tax havens, Dyreng, Hoopes, Langetieg, and Wilde (2020) show that the majority of disclosures are accurate. More details and discussions on Exhibit 21 disclosures can be found in Dyreng and Lindsey (2009) and Dyreng et al. (2020).

FIGURE 2 – Non-exhaustive list of the significant subsidiaries reported by Johnson & Johnson in Exhibit 21 filings in 2011

| Name of Subsidiary	Jurisdiction of Organization
U.S. Subsidiaries:	
Acclarent, Inc.	Delaware
ALZA Corporation	Delaware
Alza Development Corporation	California
Alza Land Management, Inc.	Delaware
Animas Corporation	Delaware
Biosense Webster, Inc.	California
Centocor Biologics, LLC	Pennsylvania
Centocor Research & Development, Inc.	Pennsylvania
CNA Development LLC	Delaware
Codman & Shurtleff, Inc.	New Jersey
Cordis Corporation	Florida
Cordis International Corporation	Delaware
Cordis LLC	Delaware
Cougar Biotechnology, Inc.	Delaware
Crescendo Pharmaceuticals Corporation	Delaware
Crucell Holdings Inc.	Delaware
DePuy, Inc.	Delaware
DePuy Mitek, Inc.	Massachusetts
DePuy Orthopaedics, Inc.	Indiana
International Subsidiaries:	
Apsis	France
Beijing Dabao Cosmetics Co., Ltd.	China
Berna Biotech Korea Corporation	Korea
Berna Rhein B.V.	Netherlands
Biosense Webster (Israel) Ltd.	Israel
Cilag Advanced Technologies GmbH	Switzerland
Cilag AG	Switzerland

3.2   Sample and descriptive statistics

The database is assembled at the firm-country-year level. The sample consists of 2,452 S&P 1500 firms. All reported at least one subsidiary at some point between 1993 and 2013, inside or outside the US. The main database covers 168 foreign countries (see table 1 for a list with their corresponding 3-digit ISO codes). Besides being foreign countries, they share the common trait of being non-haven countries. The original database comprises 218 foreign countries, but 50 are treated as tax havens (Hines and Rice, 1994; Dyreng and Lindsey, 2009) and the specific case of tax havens will be treated in greater depth in a dedicated section at the end of the paper.

Figures 3a, 3b, and 3c display some summary statistics about firms' presence in foreign countries. Out of 2,452 companies, 650 did not report any physical presence in one of the 168 foreign countries over the 1993-2013 period (see figure 3a). It means that at most one-quarter of firms are not multinational, in line with the view that listed firms concentrate a disproportionately high share of multinational corporations. On average,

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FIGURE 3 – Summary statistics

(a) Presence of firms in foreign countries (1) (b) Presence of US-listed firms in tax havens (2)

(c) Top 10 foreign countries

(d) Presence of executives in companies
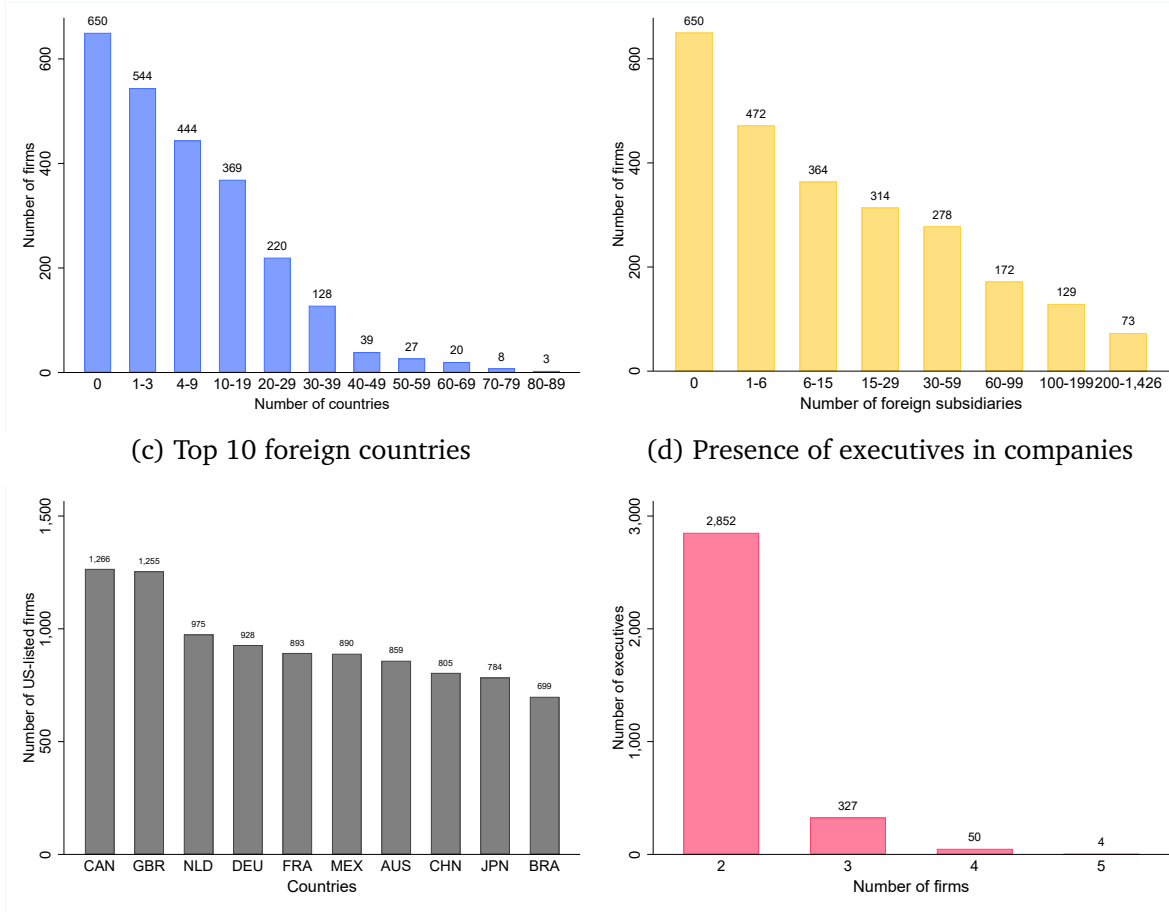
the 1,802 multinational firms had 45 foreign subsidiaries spread across 13 distinct foreign countries. The histograms exhibited in figures 3a and 3b perfectly illustrates the skewness of the two distributions, with a very small share of multinational corporations having numerous subsidiaries registered in many foreign countries. Figure 3c orders the foreign countries according to their attractiveness. Unsurprisingly, Canada appears to be the foreign country where the highest number of firms were implanted. Almost 52 percent of the firms included in the sample declared a subsidiary at some point in this country. The United Kingdom (51 percent), the Netherlands (40 percent), Germany (38 percent), and France (36 percent) complete the top 5. It is worth noticing that all the countries in the top 10 are large and central. This ranking thus coincides with what standard international trade theories would predict (Brainard, 1993; Head and Mayer, 2004; Helpman et al., 2004).

Descriptive statistics on executives are visible in figure 3d. Only those linked to a minimum of two of the 2,452 firms are retained for the rest of the analysis. The elimination of executives linked to one single company is motivated by the fact that all their characteristics we can possibly control for will be embedded in firm-year fixed effects. Hence, dropping these individuals reduces the dimension of the database at no cost. On average, the 3,233 executives preserved in the database worked for two firms and were employed for a period of four years and a half in each firm.

4 Executive experience and foreign subsidiaries: main results

This section assesses the effect of executive experience on the presence of S&P 1500 companies overseas, with a focus on the extensive margin of FDIs. I outline the identification strategy, comment the baseline result, gauge its robustness, and finally discuss endogeneity.

4.1 Identification strategy

Equation (1) below is the principal equation of this paper:

$$FDI_{i,c,t} = \alpha TREAT_{i,c,t} + \mu_{i,t} + \upsilon_{c,t} + \gamma_{i,c} + \epsilon_{i,c,t} \tag{1}$$

The dependent variable $FDI_{i,c,t}$ is a dummy variable equal to one if firm i has at least one subsidiary in country c in year t. On the right-hand side, $TREAT_{i,c,t}$ is the number of executives in firm i and year t who have previously worked for a firm that had least one subsidiary in country c at the time. A battery of firm-year, country-year, and firm-country fixed effects is introduced to neutralize the effect of confounding factors. By definition, the firm-year fixed effects $\mu_{i,t}$ take into account time-variant and time-invariant firm-specific determinants of FDIs. They include (but are not limited to) firm productivity and firm size. The country-year fixed effects $\upsilon_{c,t}$ encompass labor costs, market size, fiscal incentives, and all the other time-variant and time-invariant country-specific features influencing FDIs of US-listed firms. The last set of fixed effects $\gamma_{i,c}$, defined at the firm-country

level, absorb time-invariant firm-country variables influencing the probability of US-listed companies to invest in country c. The distance between the headquarters and the foreign country is thus included. Importantly, the three-way fixed effects further capture fixed and year-specific attributes of executives such as age, education, and within-firm experience. Therefore, $TREAT_{i,c,t}$ is purged from the effect of characteristics not ascribable to former job experience.

In words, the coefficient of interest α translates the average effect of appointing an executive experienced with a particular foreign country on the firm's probability to own subsidiaries in this country. Its estimation requires executive mobility across firms. Take two firms A and B with comparable global trends in FDIs, i.e., $\mu_{A,t} - \mu_{A,t-1} \approx \mu_{B,t} - \mu_{B,t-1}$. Further assume that A, unlike B, hires an executive experienced with country c in year t. The identification relies on the assumption that the network of subsidiaries of the two companies in country c would have evolved in the same way in absence of the new hiring.

4.2   Baseline results

Table 2 panel A exhibits the regression results obtained with ordinary least squares (OLS). Consistent with anecdotal evidence, the coefficient is positive and highly statistically significant, at the 1 percent level. On average, recruiting an executive who has FDI-related experience with a particular country is associated with a 2.3 percentage point increase in the probability to be present in this country. Put differently, the average value of the dependent variable being equal to 4.4 percent, the probability of being present in the foreign country increases by approximately 52 percent ($= 0.023/0.044$) after the hiring, so the effect is potentially sizable.

Complementary regressions reported in Appendix table AT2 examine whether the departure of experienced executives hastens firms' exit. The specification of equation (1) is slightly changed in all four columns. In column (1), $FDI_{i,c,t}$ is replaced with a variable $EXIT_{i,c,t}$ equal to 0 if $FDI_{i,c,t} = 1$ and equal to 1 if $FDI_{i,c,t} = 0$ and $FDI_{i,c,t-1} = 1$. In column (2), $TREAT_{i,c,t}$ is replaced with a dummy equal to 1 if $TREAT_{i,c,t} < TREAT_{i,c,t-1}$. $\hat{\alpha}$ is not significantly different from zero in both cases. Symmetrically and not surprisingly, substituting $FDI_{i,c,t}$ with a binary variable $ENTRY_{i,c,t}$ equal to 0 if $FDI_{i,c,t} = 0$ and 1 if $FDI_{i,c,t} = 1$ and $FDI_{i,c,t-1} = 0$ (column 3) or $TREAT_{i,c,t}$ with a dichotomous variable equal

TABLE 2 – Main regression results for $\hat{\alpha}$

Dependent variable	$FDI_{i,c,t}$
Panel A: benchmark estimate	
$TREAT_{i,c,t}$	0.023^a
Panel B1: 30 random foreign countries	
$TREAT_{i,c,t}$	0.026^a
Panel B2: elimination of firms entering/exiting the sample	
$TREAT_{i,c,t}$	0.027^a
Panel B3: binary models	
$TREAT_{i,c,t}$ (logit)	0.210^a
$TREAT_{i,c,t}$ (probit)	0.176^a
Panel B4: 2003-2013 period	
$TREAT_{i,c,t}$	0.018^a
Panel B5: experience and origin	
$TREAT_{i,c,t}$ (FamilySearch)	0.023^a
$origins_{i,c,t}$ (FamilySearch)	0.006^a
$TREAT_{i,c,t}$ (NamePrism)	0.023^a
$origins_{i,c,t}$ (NamePrism)	0.004^d
Panel C1: three-year lag as an instrument	
$TREAT_{i,c,t}$	0.036^b
Panel C2: precipitated movements of executives as instruments	
$TREAT_{i,c,t}$ (Factiva and official reports)	0.049^a
$TREAT_{i,c,t}$ (ExecuComp)	0.031^a
Panel C3: PNTR as a quasi-natural experiment	
$TPU_{i,j,t}$	0.289^a
$TREAT_i \times TPU_{i,j,t}$	0.585^d

Notes: This table displays the results for equation (1). Panel A displays the baseline results, panel B the results of the robustness checks, and panel C the results obtained after addressing endogeneity issues. Standard errors, not reported for space, are clustered at the firm-year level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 4 for more details.

to 1 if $TREAT_{i,c,t} > TREAT_{i,c,t-1}$ (column 4) yields a positive and statistically significant $\hat{\alpha}$. It means that the arrival of experienced executives is associated with an increase in FDIs but departures, by contrast, have little incidence on FDIs. The asymmetry goes along with the notion that experienced executives reduce the sunk cost of FDIs.

4.3 Robustness

Outliers Four types of sensitivity checks evaluate the robustness of the benchmark results. A first series of tests explore whether the treatment effect is affected by outliers.

Appendix figure AF1 lays out the regression results obtained after removing one foreign country at a time. The 168 coefficients are extremely stable across regressions and suggest that they should not be driven by one particular country. Along the same lines, table 2 panel B1 reproduces the results based on 30 random foreign countries [7] and the coefficient has the same order of magnitude. Panel B2, this time, eliminates firms rather than countries. Equation (1) is regressed without firms not operating over the entire time span (entering after 1993 and/or exiting before 2013) and the key finding holds. All in all, the tests substantiate that the effect is pervasive.

Estimation technique Table 2 panel B3 queries the pertinence of the estimation method. There is no consensus in the literature on the most appropriate estimator when the dependent variable is dichotomous (Horrace and Oaxaca, 2006; Angrist and Pischke, 2009; Battey, Cox, and Jackson, 2019; Gomila, 2020). On the one hand, linear probability models are commonly used for their simplicity and transparency, although it has been raised that OLS estimates in the case of a binary outcome are inconsistent under some conditions. On the other hand, binary models guarantee that the predicted probabilities lie on the unit interval but they can be computationally demanding and might suffer from the incidental parameters problem. I overcome the latter problem hinging on Hinz, Stammann, and Wanner (2020). Starting from the standard gravity model with exporter-time, importer-time, and exporter-importer fixed effects, they propose a correction for a class of models with three-way fixed effects akin to equation (1). Table 2 panel B3 applies the correction in logit and probit estimations. The coefficients stay positive and statistically significant in both cases and confirm that the findings are not influenced by the estimation method.

Measurement errors Table 2 panel B4 addresses a measurement issue. Due to data limitations, it is impossible to track executives prior to 1992 and subsidiaries before 1993. Therefore, an implicit assumption is that executives have no FDI experience in the first year of the sample, i.e., 1993. Note that it could work against the benchmark results. Doing so involves incorrectly assigning treated firm-country-year observations to the non-treated sample, thereby compressing the FDI gap between non-treated and treated triplets. To verify that the error does not contaminate the results, I replicate the analysis after ruling out the first ten years for the regression. This leaves a ten-year window period

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7. These countries are: AFG, AGO, ARE, AUS, BDI, CHL, CHN, CIV, DZA, EST, GLP, GRC, GTM, GUF, GUM, HMD, IDN, LVA, MLI, NER, NOR, PHL, PLW, SUR, SWZ, TGO, TON, URY, VNM, and YEM.

during which executives move across firms and acquire (measurable) experience. Again, the coefficient is in line with the baseline one, both in terms of magnitude and statistical significance.

Experience and origin   Another caveat is that the treatment variable could partly express the effect of executives' origin. The fact that executives in the database oversaw operations with diverse foreign countries maximizes the chance of capturing experience instead of origin; and while there is no precise information on origin, it seems reasonable to assume that international business activities necessitate certain characteristics that origin does not automatically provide. To cope with this problem and infer the origin of executives, I scrape data from the largest collection of family history, family tree, and genealogy records, *FamilySearch*, and match surnames to a country of origin accordingly. The information is then added into equation (1) with a variable called $origins_{i,c,t}$, equal to the number of executives in firm i and year t whose name is linked to country c. The results in panel B5 confirm the benchmark ones. They also confirm that origin, despite being relevant, contributes to FDIs to a lesser extent. An alternative approach involves the use of *NamePrism*. *NamePrism* is a non-commercial nationality classification web service based on machine learning algorithms. The correlation coefficient between the two distinct $origins_{i,c,t}$ variables is equal to 0.423, meaning that the two matching methodologies produce a mix of common and uncommon results. Still, the regression results obtained by using *NamePrism* resemble and consolidate those obtained with *FamilySearch*.

4.4   Endogeneity

The previous subsections establish a strong relationship between executive experience and FDIs. A concern not mentioned thus far, however, pertains to endogeneity. The results above could be plagued by endogeneity for numerous reasons. One is reverse causality: Entry (decision) in foreign countries might precede the recruitment of experienced executives. Another source is omitted variables. Notwithstanding the introduction of three-way fixed effects, firms may undertake unobservable firm-country-year investments to reach foreign markets and the treatment variable could capture their effect. In any case, the results above suffice to highlight the relevance of executive experience and endogeneity should not be seen as major threat. Companies strategically select their executives, so the fact that the venue of experienced executives coincides with an international expansion

FIGURE 4 – Dynamics of the effect
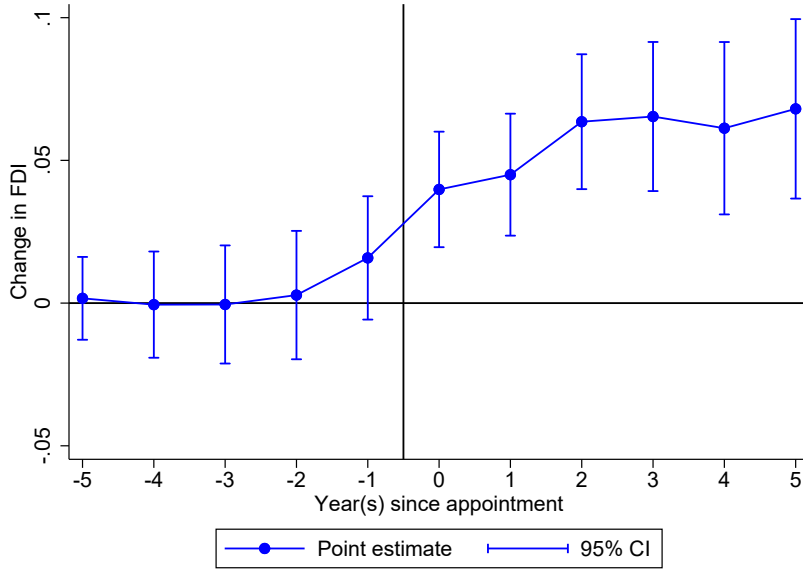
Notes: This figure depicts the regression results of equation (2). Standard errors are clustered at the firm-year level. See section 4 for more details.

suggests that executive experience matters for firm performance in foreign markets. Also, we will see in the next section that experience with multinational operations enhances executive pay. It means that firms pay a premium for this asset precisely because they expect performance gains and higher returns. All the same, I carry out hereafter four complementary exercises that support the existence of a causal effect.

Placebo test   The first exercise consists of a placebo test. To verify that the baseline results do not derive from the existence of pre-trends and past unobserved firm-country-year shocks, I inspect variations in the explanatory variable around the year of the treatment:

$$FDI_{i,c,t} = \alpha TREAT_{i,c,t} + \sum_{k=1}^{5} \beta_k TREAT_{i,c,t}^{t+k} + \sum_{k=1}^{5} \zeta_k TREAT_{i,c,t}^{t-k} + \mu_{i,t} + \upsilon_{c,t} + \gamma_{i,c} + \epsilon_{i,c,t} \quad (2)$$

$TREAT_{i,c,t}^{t+k}$ is a variable equal in year t to the number of executives in firm i and year $t+k$ having experience with country c. If the β coefficients are not statistically different from zero, then the stock of experienced executives is uncorrelated with future FDIs and α is unlikely to mirror the effect of past firm-country-year unobserved shocks. Symmetrically, $TREAT_{i,c,t}^{t-k}$ is equal in year t to the number of executives in firm i and year $t-k$ experienced

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with country c. The ζ coefficients inform on the dynamics of the effect post treatment. α expresses the immediate effect of the hiring, $\alpha + \zeta_1$ the total effect after one year, $\alpha + \zeta_1 + \zeta_2$ the total effect after two years, and so on. Figure 4 plots the results of the regression. The $t - j$ coefficients ($j \in \{1, ..., 5\}$) represent the estimated $\hat{\beta}$. Reassuringly, none of them is significantly different from zero at standard levels. The $t + j$ coefficients ($j \in \{1, ..., 5\}$) translate the estimated $\hat{\alpha} + \sum_{k=1}^{j} \hat{\zeta}_k$. The graph indicates that the effect kicks in immediately after the recruitment, progresses over time, increases by half after three years, and finally stabilizes.

Instrumental variables   The previous paragraph proves that the coefficient of interest α should not reflect the effect of past and unobserved firm-country-year shocks. Quid of contemporaneous shocks? An option to limit their incidence is to instrument $TREAT_{i,c,t}$ with its three-year lagged value, as in Mion and Opromolla (2014). In their paper, the authors claim that a three-year period is sufficient for past shocks not to affect current exporting activities. Figure 4 implies that executive experience does not bring additional value three years after the appointment. Hence, I formulate an analogous hypothesis in the present paper and provide the results obtained with two-stage least squares (2SLS) in table 2 panel C1. The F-statistic in the first stage, equal to 196, attests that the instrument has power and satisfies the rank condition. The second-stage result remains positive and statistically significant at the 5 percent level. Note that because the 2SLS point estimate is larger than the OLS one, the OLS regression might eventually minimize the effect of executive experience on FDIs.

Precipitated executive mobility   A different strategy to extract exogenous variations in the stock of experienced executives $TREAT_{i,c,t}$ is to investigate the causes of executive mobility. Multiple reasons can lie behind movements of employees across firms. Companies hire managers strategically and, ideally, would take their time to select the best fit. A typical example is when they poach the best executives from their peers. However, they sometimes have to replace former executives against their will or urgently after an unanticipated event. I conjecture that endogeneity is less plausible under such circumstances. As S&P firms are the largest ones, it is possible to retrieve some information about executive movements by collecting and scrutinizing press releases, newspapers, and newswires (with Factiva) as well as official reports. I do it manually for each inflow and outflow of executives to understand as precisely as possible the nature of each movement. I code

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the following events as sources of exogenous variations in $TREAT_{i,c,t}$: deaths, abrupt resignations, retirements, early layoffs, and resignations and layoffs subsequent to legal investigations. The aim is to retain movements triggered by unexpected departures or initiated by executives themselves and to leave aside movements well-prepared by firms. For example, if executive e working for firm i dies in year t, then I will say that firm i faces an exogenous shock in year t and that the change in the stock of experienced managers between $t-1$ and t is exogenous. Details and concrete examples are attached in the online appendix. I instrument $TREAT_{i,c,t}$ with a new variable $TREAT_{i,c,t}^{sudden}$ equal to zero in the first year and then to:

$$\text{with } TREAT_{i,c,t}^{sudden} = TREAT_{i,c,t-1}^{sudden} + \mathbb{1}_{i,t}\left(TREAT_{i,c,t} - TREAT_{i,c,t-1}\right)$$

$\mathbb{1}_{i,t}$ is a dummy variable equal to one if firm i is affected by an exogenous shock in years $t-1$ or t, as defined above. $\hat{\alpha}$, in table 2 panel C2, remains positive and statistically significant at the 1 percent level (first-stage F-stat equal to 1,242). Triangulating data sources delivers the same conclusion. In a supplementary regression, $\mathbb{1}_{i,t}$ is defined not based on publicly available information but on the information contained in ExecuComp about resignations and retirements. The corresponding $\hat{\alpha}$ stays positive and significant.

Conferral of PNTR Alternatively, table 2 panel C3 exploits the granting of Permanent Normal Trade Relations status on China in 2000. US imports from non-market economies are generally subject to non-normal-trade-relations tariff rates (NNTR), known to be higher than normal-trade-relations tariff rates (NTR, or equivalenty most-favored-nation tariff rates). Since the US Trade Act of 1974, US Presidents can grant NTR tariff rates to some non-market economies on an annual basis and upon approval from the US Congress. This is the reason why exports from China to the US were subject to NTR rates between 1980 and 2000, even though China was still considered as a non-market economy at the time. The renewal was quite automatic in the 1980s (Pierce and Schott, 2016). Nevertheless, the Tiananmen Square protests in 1989 marked a turning point. In 1990, 1991, and 1992 for instance, the House of Representatives voted against the renewal of the status. More generally, public opinion became hostile toward China. Gallup surveys reveal that while 13 percent of Americans had a very or mostly unfavorable view of China months before the Tiananmen incidents, this proportion then soared and stayed above 50 percent throughout the 1990s.[8] Other polls suggest that public opinion wanted the US to

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8. See: https://news.gallup.com/poll/1627/china.aspx.

put more pressure on China and vigorously opposed Bush's conception of Sino-American relations (Skidmore and Gates, 1997). As a consequence, exporters in China were unable to precisely anticipate the tariffs they would face in the future, and this uncertainty hindered China-US trade flows. The conferral of PNTR status in October 2000, quick and unanticipated,[9] ended this uncertainty. The quantification analysis conducted by Handley and Limão (2017) indicates that the reduction in trade policy uncertainty induced by the granting is responsible for a third of the growth of US expenditures in Chinese goods between 2000 and 2005. In parallel, Gulen and Ion (2016), Choi et al. (2020), and Wu et al. (2020) find that policy uncertainty stifles corporate investments and FDIs. Two hypotheses can thus be formulated. First, we expect the granting to boost US FDIs in China, especially in the sectors that were the most exposed to trade policy uncertainty. Second, if managers significantly contribute to firms' FDIs, the increase in FDIs should be most striking in firms endowed with experienced executives. To test both assumptions, I proxy trade policy uncertainty using the gap between NNTR and NTR tariff rates at the industry level (Pierce and Schott, 2016). Most of its variation stems from NNTR tariff rates, set by the Smoot-Hawley Tariff Act seventy years earlier in 1930, so the treatment variable is plausibly exogenous. Next, I proceed with a triple-difference equation:

$$FDI_{i,t} = \alpha TREAT_i \times TPU_{i,j,t} + \beta TPU_{i,j,t} + \mu_i + \upsilon_t + \epsilon_{i,t} \qquad (3)$$
$$\text{with } TPU_{i,j,t} = \mathbb{1}_{t \geq 2001} \left(NNTR_{i,j,1999} - NTR_{i,j,1999} \right)$$

$FDI_{i,t}$ is a binary variable indicating whether firm i has at least one subsidiary in China in year t. $TREAT_i$ is the number of executives in firm i experienced in managing operations with China. Note the absence of a time index t. The regression is run between 1995 and 2005 only with firms in which the number of executives having experience with China is fixed over the period to eliminate the possibility that firms hire executives and expand simultaneously. $TPU_{i,j,t}$ is the treatment variable. It is equal to zero from 1995 to 2000. As of 2001, this variable is the gap between the NNTR and NTR tariff rates in 1999 in industry j in which firm i mainly operates.[10] The identifying assumption for equation (3) is that, all else equal and in absence of the shock, FDIs would have evolved in the same way in all firms. The estimation results in table 2 panel C3 corroborate the two predic-

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9. Greenland, Ion, Lopresti, and Schott (2020) show that the PNTR status was little mentioned in newspapers prior to the introduction of the bill in May 2000.

10. Sectors are defined at the 4-digit SIC level and information on NNTR and NTR tariff rates is available just for manufacturing sectors. Hence, only firms mainly operating in manufacturing are retained for equation (3).

tions. The granting stimulated FDIs of US-listed firms in China ($\hat{\beta} > 0$) and the pattern is more remarkable for firms employing executives experienced with China ($\hat{\alpha} > 0$). A robustness check similar to the one in figure 4 ensures that the results cannot be attributed to pre-existing trends in FDIs. Once added into the right-hand side variables, the leading values of $TPU_{i,j,t}$ in equation (3) are not statistically different from zero at the 5 percent level (see Appendix figure AF3).

Altogether, the placebo test, the two-stage least squares regressions, and the identification strategy hinging on the PNTR status of China lend credence to a positive and causal effect of executive experience on FDIs.

5 Executive experience and foreign subsidiaries: additional results

The effect highlighted in section 4 naturally raises questions, such as: Does FDI knowledge have to be country-specific to help firms penetrate new markets? Is the effect heterogeneous across executives? Does the effect hold at the intensive margin? Does multinational experience translate into higher compensations? I tackle these questions in this section. Then, I address the specific case of tax havens and discuss the policy-relevant implications regarding corporate tax avoidance.

5.1 Country-specific knowledge?

We have seen that executives used to manage operations with a particular foreign country facilitate firm entry in this country. Nonetheless, the baseline econometric model cannot say whether they stimulate FDIs in other foreign countries too. In equation (1), the firm-year fixed effects $\mu_{i,t}$ comprise the impact of all year-specific characteristics of executives, inclusive of their experience in managing multinational operations broadly defined. To explore this further, I replace the firm-year fixed effects $\mu_{i,t}$ with firm fixed effects μ_i and estimate:

$$FDI_{i,c,t} = \alpha TREAT_{i,c,t} + \alpha^{global} TREAT_{i,t}^{global} + \mu_i + \upsilon_{c,t} + \gamma_{i,c} + \epsilon_{i,c,t} \tag{4}$$

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$TREAT_{i,t}^{global}$ is a binary variable equal to 1 if firm i has in year t at least one executive with multinational experience. It follows that:

$$\begin{aligned} \alpha^{global} \;=\; & \mathbb{E}\left(FDI_{i,c,t}/\mu_i, \upsilon_{c,t}, \gamma_{i,c}, TREAT_{i,c,t}=0, TREAT_{i,t}^{global}=1\right) \\ & -\mathbb{E}\left(FDI_{i,c,t}/\mu_i, \upsilon_{c,t}, \gamma_{i,c}, TREAT_{i,c,t}=0, TREAT_{i,t}^{global}=0\right) \end{aligned}$$

α^{global} symbolizes the average effect on the probability to own subsidiaries in country c of having executives familiar with any other foreign country. Its estimation requires variation in $TREAT_{i,t}^{global}$ within firms, over time, and across non-treated triplets (i.e., $TREAT_{i,c,t}=0$). Now, the identifying assumption is that in absence of executives familiar with multinational operations, the network of subsidiaries in firms actually employing experienced executives and the one in firms employing no experienced executives would have evolved in the same way. Table 3 panel A1 reports the results. $\hat{\alpha}$ is consistent with the previous point estimates. More interestingly, $\hat{\alpha}^{global}$ is ten times lower than $\hat{\alpha}$, meaning that general experience in multinational activities has little incidence and only market-specific knowledge bolsters entry in foreign countries. Replacing the dummy $TREAT_{i,t}^{global}$ by the total number of executives experienced in multinational operations slightly changes the interpretation of α^{global} but confirms the findings. The untabulated $\hat{\alpha}^{global}$, whose order of magnitude can be directly compared to $\hat{\alpha}$ in this case, is equal to 1.001e-4 (significant at the 1 percent level). A finer exercise visible in panel A2 introduces $TREAT_{i,c,t}^{continent}$. The variable counts the number of executives experienced with foreign countries located in the same continent as country c. The conclusion remains valid. Therefore, only country-specific experience matters when it comes to establishing a physical presence in foreign countries. Experience with multinational activities say in Belgium does not significantly spur FDIs in France, Germany, or Italy.

5.2   Heterogeneous effects across occupations

Geography interacts with executive experience and FDIs. Experience with the targeted country is decisive, experience with a neighboring country has a smaller impact, and experience with a more distant country plays almost no role. Does the effect of executive experience also depend on executives' function? Insofar as C-level executives "set the tone at the top," we might anticipate a more pronounced effect for top executives. Equation

TABLE 3 – Additional results

Dependent variable	$FDI_{i,c,t}$
Panel A1: global experience in multinational activities	
$TREAT_{i,c,t}$	0.025^a
$TREAT_{i,t}$	0.002^b
Panel A2: experience in multinational activities with other countries from the same continent	
$TREAT_{i,c,t}$	0.022^a
$TREAT_{i,c,t}^{continent}$	4.569e-4^a
Panel B: CEOs/CFOs/CMOs/COOs and the rest of executives	
$TREAT_{i,c,t}$	0.011
$TREAT_{i,c,t}^{TE}$	0.029^a
Panel C: Intensive margin	
$TREAT_{i,c,t}$ (OLS)	0.178^b
$TREAT_{i,c,t}$ (PPML)	0.023^b
Panel D: tax havens	
$TREAT_{i,c,t}$ (50 tax havens)	0.027^b
$TREAT_{i,c,t}$ (44 tax havens)	0.025^b

Notes: $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 5 for more details.

(5) tests the empirical validity of this conjecture.

$$FDI_{i,c,t} = \alpha TREAT_{i,c,t} + \alpha^{TE} TREAT_{i,c,t}^{TE} + \mu_{i,t} + \upsilon_{c,t} + \gamma_{i,c} + \epsilon_{i,c,t} \qquad (5)$$

The triple-difference equation allows for heterogeneous effects by separating CEOs, CFOs, CMOs, and COOs from the rest. $TREAT_{i,c,t}^{TE}$ indicates whether the CEO, CFO, CMO, and COO of firm i in year t are experienced with country c. It is always inferior to $TREAT_{i,c,t}$ and ranges from 0 to 4. The results outlined in table 3 panel B suggest that the average effect estimated so far is indeed driven by top C-level executives. While the latter significantly enhance their firm's probability to be implanted in the countries they have operated with, the experience of other executives, on the opposite, has limited influence on the location choices of multinational corporations.

5.3 Intensive margin of FDIs

Throughout the analysis, firm presence overseas has been analyzed at the extensive margin. To supplement the benchmark results, table 3 panel C contains the estimation results of an equation where the dependent variable $FDI_{i,c,t}$ denotes the number of subsidiaries owned by firm i in country c in year t. The regression is run conditional on having at least one subsidiary in the given country and given year so that α does not mirror a mix of extensive- and intensive-margin effects. The coefficient of interest is again positive and statistically significant at standard levels. In addition, the effect holds irrespective of the estimation methodology, by using OLS or pseudo-poisson maximum likelihood (PPML).[11] Besides fostering firm entry in foreign country, executive experience thus also contributes to the expansion of multinational companies where they are already located.

5.4 Executive pay and multinational experience

Executive are in short supply (Sauvagnat and Schivardi, 2020) and experience with multinational activities greatly helps firms grow in international markets. Moreover, knowledge must be country-specific to be determinant. As a consequence, companies presumably compete in the labor market for this skill and award a compensation premium for experienced executives. Appendix figure AF4 goes along these lines. It depicts the distribution of compensations for executives with and without FDI experience (in thousands US dollars and logarithm). The data used for its construction come from ExecuComp. They give a faithful picture of executives' compensations as they encompass bonuses, stock and option awards, non-equity incentive plans, and all other pay, which generally exceed salaries.[12] The graph shows that experienced executives receive a higher compensation on average. The Mincer-type equation (6) digs into this in a more systematic way. $compensation_{e,i,t}$ is the compensation of executive e working for firm i in year t.

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11. Note that, in the latter case, we need not apply a correction for the incidental parameter problem. Weidner and Zylkin (2019) demonstrate that, in a PPML model with three-way fixed effects, (i) estimates are consistent if the number countries is large enough and (ii) the bias induced by the incidental parameters problem drastically decreases as either the number of firms or periods increases.

12. As is common practice in the literature (Gabaix and Landier, 2008; Chhaochharia and Grinstein, 2009; Faulkender and Yang, 2010; Graham et al., 2012), the variable used for compensations corresponds to the variable labeled $TDC1$ in ExecuComp. Note that its calculation changed in 2006, after the promulgation of Financial Accounting Statement (FAS) 123R. Pre- and post-2006 values are standardized following Gabaix, Landier, and Sauvagnat (2014).

On the right-hand side, $FDI\ experience_{e,i,t}$ is the variable of interest. It is a binary variable equal to 1 if executive e has worked for a multinational enterprise before joining the current firm. Control variables include executives' age ($age_{e,t}$), within-firm experience ($firm\ experience_{e,i,t}$), CEO and CFO dummies ($CEO_{e,i,t}$ and $CFO_{e,i,t}$), and a battery of executive and firm-year fixed effects. The latter capture unobserved and constant characteristics of executive, systematic differences in compensations across firms, as well as global trends in compensations and transitory shocks.

$$log\left(compensation_{e,i,t}\right) = \kappa FDI\ experience_{e,i,t} + \lambda age_{e,t} + \iota firm\ experience_{e,i,t} \quad (6)$$
$$+ \delta CEO_{e,i,t} + \eta CFO_{e,i,t} + \nu_e + \omega_{i,t} + u_{e,i,t}$$

The regression results in Appendix table AT6 validate that FDI-related experience is a valuable asset in the labor market. $\hat{\kappa}$ is equal to 0.374 and significant at the 1 percent level. In words, experience with multinational activities is associated with a 37.4 percent compensation premium.

5.5   Entry in tax havens and profit shifting

Before concluding, I examine whether the pattern can be observed for a peculiar subset of countries: tax havens. Typical models from the international trade literature predict that firms should open plants in large and central countries. Tax havens belie these theories. Albeit small and isolated, they attract a sizable amount of FDIs. This is because some multinational corporations open subsidiaries in tax havens to artificially deflate the profits booked in high-tax countries and thereby avoid taxes (Beer, de Mooij, and Liu, 2020). The factors prompting multinationals to engage in profit shifting have received growing attention in recent years (Alm, 2019; Wang, Xu, Sun, and Cullinan, 2020). Yet, the role of executive experience has largely been neglected, notwithstanding vast anecdotal evidence. [13] Table 3 panel D verifies that the mechanism exposed in the present paper still applies to tax havens, i.e., that executives assimilate and replicate the tax dodging schemes of their former firms. The first regression employs the classifications of tax

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13. Wal-Mart is a famous example. David Bullington, Wal-Mart's vice president for tax policy between 1994 and 2010, once declared that he started being under pressure to decrease Wal-Mart's effective tax rate when Thomas Schoewe was appointed in 2000 as CFO. He said that Mr. Schoewe was familiar with "some very sophisticated and aggressive tax planning" and that "he rode herd on [them] all the time that [they] have the world's highest tax rate of any major company" (Drucker, 2007).

havens proposed by Hines and Rice (1994) and Dyreng and Lindsey (2009), both prevalent in the corporate tax avoidance literature. 50 foreign countries are considered as tax havens accordingly. [14] The second regression excludes six jurisdictions: Hong Kong, Ireland, Luxembourg, Malaysia, Singapour, and Switzerland. They are all six relatively large and central. Therefore, FDIs of US-listed in these countries might have nothing to do with tax avoidance in the first place. On the contrary, FDIs in small and remote islands in the likes of Bahamas and Jersey are more likely to be fully motivated by tax purposes and to fall within the sole scope of profit shifting. The two results concur with the previous ones and unveil a new mechanism whereby profit shifting practices spread across multinational firms (Souillard, 2021). They also carry policy implications. In a context characterized by several tax scandals, persistent budget deficits, rising inequalities, and the covid-19 pandemic, public authorities seek to curb profit shifting and increase corporate tax revenues. The Base Erosion and Profit Shifting (BEPS) initiative led jointly by the Organisation for Economic Cooperation and Development (OECD) and G20 perfectly illustrates the salience of the issue. Against this background, the findings suggest that scanning movements of executives could be useful to detect firms' use of tax havens and that more audit resources could be devoted to firms hiring top executives involved with tax havens.

6 Conclusion

TO BE ADDED.

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14. The 50 tax havens are: Andorra, Anguilla, Antigua, Aruba, Bahamas, Bahrain, Barbados, Barbuda, Belize, Bermuda, British Virgin Islands, Cayman Islands, Cook Islands, Costa Rica, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Hong Kong, Ireland, Isle of Man, Jersey, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macau, Malaysia, Maldives, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Netherlands Antilles, Niue, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Saint Martin, Samoa, San Marino, Seychelles, Singapore Switzerland, Turks and Caicos Islands, and Vanuatu. Channel Islands and UK Caribbean Islands both appear in Hines and Rice (1994) but are omitted due to data limitations.

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Appendix: supplementary figures and tables

TABLE AT1 – Benchmark estimate: full table

Dependent variable	$FDI_{i,c,t}$
$TREAT_{i,c,t}$	0.023^a
	(0.003)
Average probability	0.044
Firm-year FEs	Yes
Country-year FEs	Yes
Firm-country FEs	Yes
R^2	0.766
Nb. of obs.	3,138,408

Notes: This table reports the benchmark regression results of equation (1). They correspond to table 2 panel A. The standard error, in parentheses, is clustered at the firm-year level. $^a p < 0.01$. See section 4 for more details.

TABLE AT2 – The asymmetric effect of executive experience on FDIs

| Dependent variable	(1)	(2)	(3)	(4)
	Exit		Entry	
	$EXIT_{i,c,t}$	$FDI_{i,c,t}$	$ENTRY_{i,c,t}$	$FDI_{i,c,t}$
$TREAT_{i,c,t}$	-0.005	0.013	0.009^a	0.020^a
	(0.004)	(0.068)	(0.002)	(0.005)
Firm-year FEs	Yes	Yes	Yes	Yes
Country-year FEs	Yes	Yes	Yes	Yes
Firm-country FEs	Yes	Yes	Yes	Yes
R^2	0.680	0.766	0.302	0.766
Nb. of obs.	146,470	3,138,408	3,015,179	3,138,408

Notes: This table reports regression results of equation (1), slightly modified to compare the effect of executive experience on entries and exits. Standard errors, in parentheses, are clustered at the firm-year level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 4 for more details.

TABLE AT3 – Robustness checks: full table

Panel Dependent variable	B1 $FDI_{i,c,t}$	B2 $FDI_{i,c,t}$	B3 (logit) $FDI_{i,c,t}$	B3 (probit) $FDI_{i,c,t}$	B4 $FDI_{i,c,t}$	B5 (FS) $FDI_{i,c,t}$	B5 (NP) $FDI_{i,c,t}$
$TREAT_{i,c,t}$	0.026^a	0.053^a	0.210^a	0.176^a	0.018^a	0.023^a	0.023^a
	(0.004)	(0.009)	(0.046)	(0.009)	(0.004)	(0.003)	(0.003)
$origins_{i,c,t}$						0.006^a	0.004^d
						(0.002)	(0.002)
Firm-year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-country FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.758	0.711	.	.	0.833	0.766	0.766
Nb. of obs.	560,430	194,040	145,105	145,105	1,881,768	3,138,408	3,138,408

Notes: This table evaluates the robustness of the benchmark estimate in table 2 panel A. They correspond to the results provided in table 2 panel B. Standard errors, in parentheses, are clustered at the firm-year level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 4 for more details.

FIGURE AF1 – Robustness check: dropping one country at a time
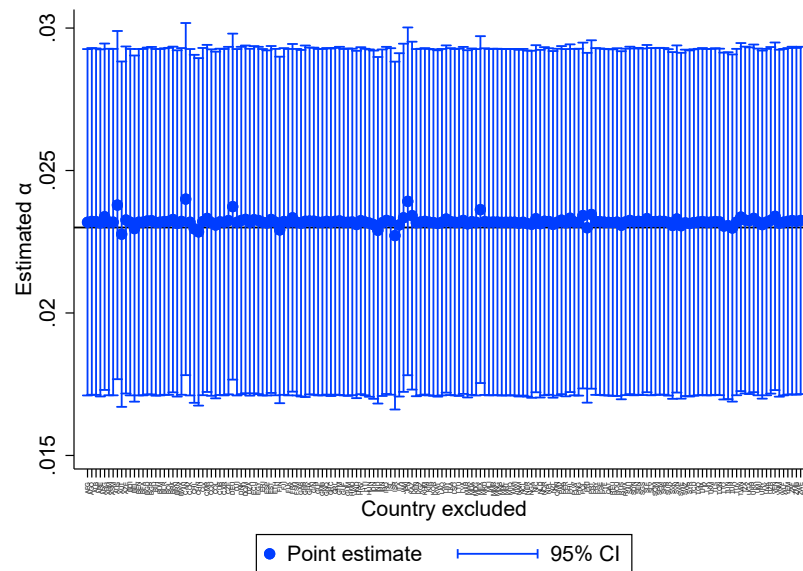
Notes: This figure depicts the regression results of equation (1) after removing one country at a time. The black line represents the benchmark estimate given in table 2 panel A. Standard errors are clustered at the firm-year level. See section 4 for more details.

TABLE AT4 – Endogeneity: full table

Panel	C1	C2 (Factiva/reports)	C2 (ExecuComp)	C3
Dependent variable	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,t}$
$TREAT_{i,c,t}$	0.036^b	0.049^a	0.031^a	
	(0.018)	(0.011)	(0.004)	
$TPU_{i,j,t}$				0.289^a
				(0.081)
$TREAT_i \times TPU_{i,j,t}$				0.585^d
				(0.411)
Firm-year FEs	Yes	Yes	Yes	No
Country-year FEs	Yes	Yes	Yes	No
Firm-country FEs	Yes	Yes	Yes	No
Firm FEs	No	No	No	Yes
Year FEs	No	No	No	Yes
First-stage Fstat	195.868	1,242.348	2.2e5	
R^2	.	.	.	0.039
Nb. of obs.	1,886,808	3,138,408	3,138,408	4,321

Notes: This table evaluates the robustness of the benchmark estimate in table 2 panel A. They correspond to the results provided in table 2 panel C. Standard errors, in parentheses, are clustered at the firm-year level, except in panel C3 where they are clustered at the firm level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 4 for more details.

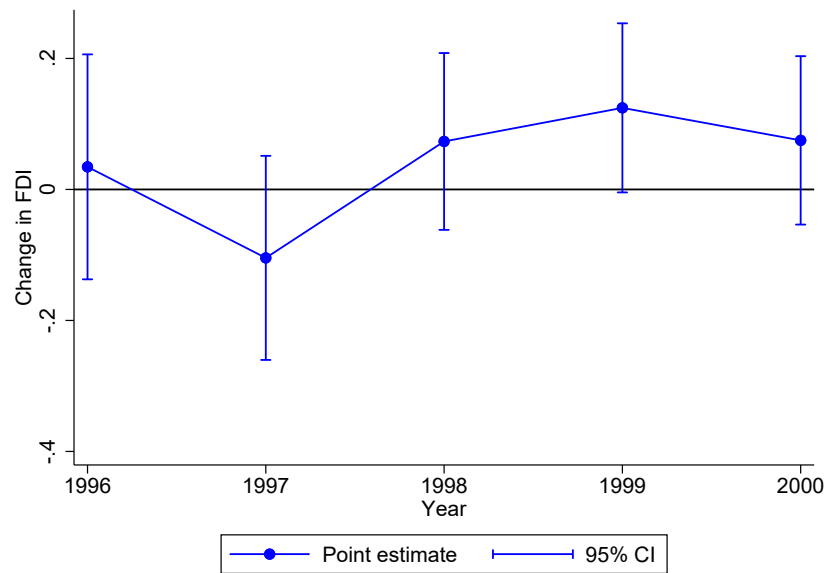FIGURE AF2 – Endogeneity: PNTR and pre-existing trends
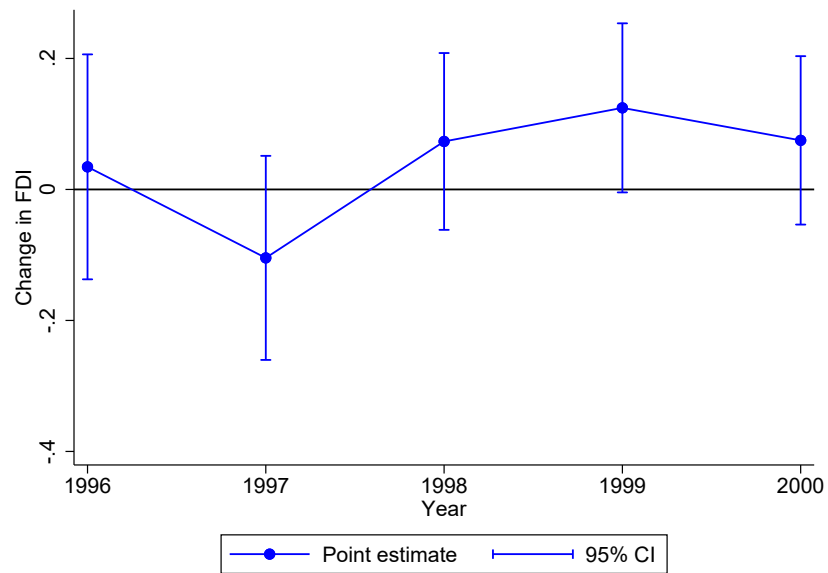
Notes: This figure depicts the regression results of equation (3) after including leading values of the treatment variable $TPU_{i,j,t}$. Standard errors are clustered at the firm level. See section 4 for more details.

TABLE AT5 – Additional results: full table

Panel	A1	A2	B	C (OLS)	C (PPML)	D (50 TH)	D (44 TH)
Dependent variable	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$	$FDI_{i,c,t}$
$TREAT_{i,c,t}$	0.025^a	0.022^a	X	0.178^b	0.023^b	Y	Y
	(0.004)	(0.003)	X	(0.087)	(0.009)	Y	Y
$TREAT_{i,t}$	0.002^b						
	(0.001)						
$TREAT_{i,c,t}^{continent}$		4.569e-4^a					
		(1.210e-4)					
$TREAT_{i,c,t}^{TE}$			X				
			X				
Firm FEs	Yes	No	No	No	No	No	No
Firm-year FEs	No	Yes	Yes	Yes	Yes	Yes	Yes
Country-year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-country FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.748	0.766	X	0.786	.	Y	Y
Nb. of obs.	3,138,408	3,119,727	X	133,319	133,319	Y	Y

Notes: This table evaluates the robustness of the benchmark estimate in table 2 panel A. They correspond to the results provided in table 2 panel B. Standard errors, in parentheses, are clustered at the firm-year level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 4 for more details.

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FIGURE AF3 – Endogeneity: PNTR and pre-existing trends

Notes: This figure depicts the regression results of equation (3) after including leading values of the treatment variable $TPU_{i,j,t}$. Standard errors are clustered at the firm level. See section 4 for more details.

FIGURE AF4 – Distribution of compensations

Notes: This figure depicts the distribution of executive compensations, expressed in thousands US dollars. See section 5 for more details.

TABLE AT6 – Executive pay and multinational experience

Dependent variable	$log\left(compensation_{e,i,t}\right)$
$FDI\ experience_{e,i,t}$	0.374^a
	(0.071)
$age_{e,t}$	-0.007
	(0.007)
$firm\ experience_{e,i,t}$	0.014^c
	(0.007)
$CEO_{e,i,t}$	0.405^a
	(0.016)
$CFO_{e,i,t}$	0.226^a
	(0.019)
Executive FEs	Yes
Firm-year FEs	Yes
R^2	0.912
Nb. of obs.	54,542

Notes: This table evaluates the explores the effect of multinational experience on executive pay. They correspond to the results of equation (6). Standard errors, in parentheses, are clustered at the firm-year level. $^d p < 0.15$, $^c p < 0.10$, $^b p < 0.05$, $^a p < 0.01$. See section 5 for more details.

Online appendix: executive mobility in Factiva and official documents

In table 2 panel C2, I investigate the causes of executive mobility using both official documents (e.g., SEC and FBI reports) and Factiva for press releases, newswires, and newspapers (e.g., firms' websites, Wall Street Journal, New York Times, Business Wire, PR Newswire). To fully understand what lies behind these movement, the task is done manually on a sample of 165 randomly drawn executives (i.e., 5 percent of the pool of executives). I focus on five particular scenarios: deaths, abrupt resignations, retirements, sudden layoffs, and resignations and lay offs triggered by legal investigations.

The key assumption for identification in table 2 panel C2e is that changes in the stock of experienced executives are exogenous under these circumstances. The change in the stock of experienced executives between year $t-1$ and t in firm i is assumed exogenous if executive e, working for firm i, dies in year $t-1$ or t. In the same vein, this change is assumed exogenous if executive e abruptly resigns in year $t-1$ or t. A resignation is deemed abrupt if the immediate replacement is not permanent, if it is due to personal reasons, or if it is to pursue other opportunities. In the absence of specific information, the resignation is treated as abrupt if it is effective three months before its announcement. Sometimes, what could be accordingly defined as a sudden resignation is in fact expected and initiated by firms. This is notably the case when the financial performance is perceived as unsatisfactory. This explains why I deviate from this standard definition in some cases, in light of the information available. The same logic applies to sudden and early layoffs, when some executives are ousted a few months after their appointment. If there is no relevant information as to why executive e leaves the current firm, I adopt a conservative approach and code the movement as endogenous. To illustrate how it is done in practice, I report below some examples.

Example 1 "August 12, 1999 – DBT Online, Inc. announced that Ron Fournet, Chief Information & Technology Officer, has been named President and CEO, replacing Charles A. Lieppe, who resigned as an Officer and Director effective immediately due to personal reasons. *"A sudden illness in my immediate family made it impossible for me to devote my full attention to DBT,"* said Mr. Lieppe, who joined DBT as President and CEO in 1997."

(SEC Exhibit 99.1 Form, August 13, 1999)

→ The shock faced by DBT in 1999 is exogenous insofar as Charles A. Lieppe left suddenly and on his own volition.

Example 2   "Avon Products Inc. fired its vice chairman [Charles W. Cramb] in connection with probes into possible bribery overseas and improper disclosures to Wall Street analysts in the US." (*Wall Street Journal*, January 31, 2012)

→ The shock faced by Avon in 2012 is exogenous insofar as the departure of Charles W. Cramb results from an investigation.

Example 3   "Sears Holdings Corp. abruptly announced the departure of president and chief executive Aylwin B. Lewis on Monday, leaving a management void at the top of the department store chain. [...] W. Bruce Johnson was named interim CEO while the company looks for a permanent successor." (*Tampa Bay Times*, January 29, 2008)

→ The shock faced by Sears in 2008 is exogenous since the firm did not have time to find directly a permanent replacement.

Example 4   "Progress also announced that Charles F. Wagner, Jr., chief financial officer, will leave the company effective immediately. In the interim until a new Chief Financial Officer is appointed, Mr. Bhatt will assume Mr. Wagner's responsibilities as Chief Financial Officer." (*Business Wire*, March 28, 2012)

→ The shock faced by Progress in 2012 is exogenous for the same reason.

Example 5   "Progress Software Corporation, a leading software provider that enables enterprises to be operationally responsive, announced today the appointment of Charles "Charlie" F. Wagner as executive vice president, Finance & Administration and chief financial officer (CFO), reporting to Richard D. Reidy, president and chief executive officer. Richard D. Reidy said: *"We are delighted with the appointment of Charlie Wagner after a search process that considered a very strong field of candidates.""* (*Market Wire*, November 15, 2010)

→ The shock faced by Progress in 2010 is endogenous this time as the firm appointed Charles F. Wagner after a long process.

Example 6   "PictureTel taps WorldCom's [Bruce] Bond in a bid to boost company's sales." (Wall Street Journal, February 10, 1998)

→ The shock faced by PictureTel in 1998 is endogenous since the appointment is purely strategic.

Example 7 "Impax Laboratories Inc.'s board has elected Robert Burr chairman.Burr, who has been an independent director of the Hayward company since 2001, succeeds Charles Hsiao, co-founder of Impax's predecessor, IMPAX Pharmaceuticals Inc. Hsiao died in August." (*The Business Journals*, December 15, 2008)
→ The shock faced by IMPAX in 2008 is exogenous because it is attributable to the death of Charles Hsiao.

Importantly, it is possible to identify movements of executives related to mergers and acquisitions (M&A). For instance, ExecuComp records the departure of Arthur L. Swift from the company Cirrus Logic in 2000. In fact, his apparent departure stems from a series of M&A operations of Cirrus Logic, first with ISD Corporation and then with LynuxWorks:

— "Arthur L. Swift has served as our Chief Operating Officer since October 2000. From March 2000 to October 2000, Mr. Swift served as President and Chief Operating Officer of ISDCorp. From August 1999 to March 2000, Mr. Swift was Vice President and General Manager of the Magnetic Storage Division of CirrusLogic, a semiconductor company." (SEC Form S-1 of LynuxWorks filed in October 2000)

— "Cirrus Logic has hived off its graphics software business to ISD Corporation. Financial terms were undisclosed, but we assume that money flowed into Cirrus' coffers from ISD. Broad outlines of the outsourcing deal are in the public domain. ISD is to take on all the workers of the Cirrus Logic PC graphics software group, organizing the team as a standalone division. It will also handle all customer relationships and support agreements for Cirrus graphics software." (*The Register*, October 14, 1998)

— "LynuxWorks Inc. is ready to roll out the most recent version of its Linux-based operating system, and the first since its merger with ISD Corp." (*EE Times*, October 8, 2000).