ULTIMATE BENEFICIAL OWNERSHIP DISCLOSURE REGULATION AND THE REAL EFFECTS OF INVESTMENT: A CROSS-COUNTRY ANALYSIS

by

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A DISSERTATION

Presented to the School of Accounting
and the Division of Graduate Studies of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

December 2022

DISSERTATION APPROVAL PAGE

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Title: Ultimate Beneficial Ownership Disclosure Regulation and the Real Effects of Investment: A Cross-Country Analysis

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Degree awarded December 2022

DISSERTATION ABSTRACT

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Doctor of Philosophy

School of Accounting

December 2022

Title: Ultimate Beneficial Ownership Disclosure Regulation and the Real Effects of Investment: A Cross-Country Analysis

In this study, I examine whether laws mandating disclosure of ultimate beneficial ownership of entities influence outbound foreign direct investment activities. The secrecy provided by anonymous companies allows the individuals controlling a company to be obscured, a factor that can be used to hide improper or illicit activity. I take advantage of the staggered enactment of laws in countries that require disclosure of beneficial owners to assess whether firms change their foreign direct investment behavior in response to increased transparency. I find limited evidence that, on average, firms reduce their outbound foreign direct investment behavior in response to ultimate beneficiary ownership disclosure laws. However, in a cross-sectional analysis, I find that the level of perceived corruption, the existence of country-by-country reporting requirements, and location as a known tax haven affect how firm investment changes upon enactment of laws mandating disclosure of ultimate beneficial ownership.

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ACKNOWLEDGMENTS

I extend a heartfelt thank you to my dissertation committee chair and advisor, Linda Krull, for her unwavering support and guidance in developing this paper, as well as her mentorship and encouragement throughout my academic career. I would also like to express my sincere appreciation to the other members of my dissertation committee, Kyle Peterson, Dane Christensen, and Van Kolpin for their invaluable insight and suggestions. All three have challenged me and helped me to grow throughout my time at the University of Oregon. I also wish to express my thanks to my fellow PhD students, past and present, for their friendship, their assistance, and their many words of encouragement along the way.

To my friends and family, for their endless support.

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CHAPTER I

INTRODUCTION

In this paper, I examine how U.S. companies change their outbound foreign direct investment in response to legislation enacted by foreign countries requiring disclosure of beneficial ownership of organizations operating within their borders. The OECD defines a beneficial owner as "The individual or individuals who effectively owns or controls a legal vehicle." While beneficial ownership may align with legal ownership, it may also be obscured through a network of complex legal structures or intermediaries and used for legitimate or illegal purposes.

Over time, governments worldwide have passed an extensive legislation framework to combat a wide range of activities such as money laundering, tax evasion, bribery, human trafficking, and terrorism. Interest in improving the transparency of ultimate beneficial ownership (UBO) has escalated in recent years in response to the Panama Papers and Paradise Papers information leaks that brought to light the extensive use of shell companies to obscure illegal activity. These leaks exposed millions of confidential documents relating to offshore activities by celebrities, politicians, and multinational corporations and the leaks sparked investigations into a wide range of tax evasion and illegal activities. The leaks also resulted in public outcry and calls for increased regulation over shell companies, including greater transparency into “ultimate beneficial ownership” disclosures (e.g., The Economist, 2016, Pikkety, 2016). Thus, while shell companies are often used for a variety of legitimate purposes, governments worldwide have renewed their focus on their potential use to hide illicit activity. Disclosure of beneficial ownership is seen as an important step in addressing this risk.

I focus on a plausibly exogenous shift toward implementation of beneficial ownership regulation to study whether disclosure of ultimate beneficial ownership affects corporate investment activity in the countries where disclosure is required. Investment abroad facilitates firm and economic growth and ensures competitiveness in an increasingly liberalized market. However, U.S.-based multinational firms operating in foreign markets are exposed to additional risk, including the potential for increased enforcement of U.S. anti-corruption laws. Furthermore, prior literature has shown that U.S. anti-corruption laws have a discriminatory effect on foreign investment, reducing the competitiveness of U.S. firms compared to local firms (Goldman and Zeume 2020). Here, I assess whether new laws enacted to reduce corruption and illicit use of funds increase U.S. investment in these countries or whether the laws further depress foreign direct investment activities by U.S. Multinationals.

Beneficial ownership regulation is one component of a larger group of regulations established to help combat the movement of funds for illegal purposes. Prior research has shown that enactment and enforcement of Foreign Corrupt Practices Act (FCPA) laws are associated with lower investment (e.g., Jia et al. 2022). While the primary purpose of enacting UBO disclosure laws is to increase transparency and provide additional tools to government agencies to investigate tax evasion and money laundering, a side benefit is that it may also provide businesses with additional tools to help lower their anti-corruption enforcement and litigation risk in countries in which they operate. Indeed, in a consultation paper assessing beneficial ownership transparency, the Canadian government suggested that increased transparency could enhance the country's image as

a safe destination for investment and that companies could use public registries "to conduct customer due diligence… and encourage a more open investment climate."

The U.S. Department of Justice highlights the importance of performing anti-corruption due diligence over business partners and acquisition targets to ensure those entities are not used to facilitate corrupt payments to government officials. Disclosure of beneficial owners, when made public, can strengthen due diligence investigations, and reduce the cost of said investigations by limiting the time and effort required to understand the ownership structure of potential business partners Public UBO disclosure could also help lower enforcement risk by limiting the possibility of unknowingly partnering with or acquiring corrupt organizations. Furthermore, discarding the protection that anonymity provides may limit the ability of managers or employees to expropriate assets from the company.

Alternatively, firms could anticipate an increased enforcement risk associated with increased UBO disclosure, as ownership information disclosed under new regulations would also be available to law enforcement officers. Similarly, firms located in jurisdictions with more regulations protecting secrecy over beneficial ownership may seek to relocate to other jurisdictions if UBO privacy is threatened. Overall, it is unclear the extent to which corporations benefit from changes in UBO disclosure regulation and whether companies change their foreign investments in response to the enactment of UBO laws. While management's response to due diligence is not directly observable, we can observe the ultimate *outcome* of those decisions in companies' overall investment levels abroad.

To test the effect of beneficial ownership disclosure laws on foreign investment, I exploit the staggered enactment of regulation in countries requiring disclosure of ultimate beneficial ownership of organizations. I employ a differences-in difference design to assess whether foreign direct investment changed after legislation mandating disclosure of beneficial owners compared to countries with no such disclosure requirements. I use country and industry-level direct investment data published by the Bureau of Economics (BEA) from 2009 to 2019 to study whether U.S. multinationals change their outbound foreign direct investment, capital expenditures, and employee presence in countries that enact a regulation requiring UBO registers. The BEA direct investment data set captures the value of direct equity investment made in affiliates, net of outstanding debt. I use an indicator variable equal to one for country-industry-years following the enactment of UBO laws and zero otherwise. I control for macroeconomic factors found in the literature to affect foreign direct investment in a country and include various fixed effects. Because one potential explanation for changes in real investment may be that firms reallocate assets to match country-by-country (CbCr) reporting for tax purposes, I also include indicator variables equal to one in country-years in which country by country disclosures are required and zero otherwise[1] (De Simone and Olbert, 2021). I find some, limited evidence that U.S firms, on average, reduce their foreign direct investment, capital investments, and employee compensation in response to the enactment of UBO disclosure laws.

To further investigate how UBO disclosure laws affect foreign direct investment, I use firm-level data on material subsidiaries located abroad, as disclosed in Exhibit 21 of

[1] Regulations enacted and effective in 2016 require multinational entities (MNEs) active in the European Union (EU) to disclose subsidiary ownership and economic activity by jurisdiction to tax authorities.

firms' 10-K reports from 2009 to 2019. I test whether firms are more or less likely to hold a material subsidiary in a country in response to the enactment of UBO regulation (Dyreng and Lindsey, 2009). I find some limited evidence that firms are more likely to enter a market after the enactment of UBO laws, but the results are sensitive to fixed effects specifications.

Next, I examine whether changes in firms' foreign investment activities in response to UBO laws differ based on the perceived corruption levels of the country in which the investment is made. I identify countries in the highest quartile of perceived corruption for a given year per Transparency International's Corruptions perception index and interact with an indicator variable equal to one in the years and zero otherwise. I also include interactions between UBO laws and CbCR reporting and for known tax havens. I find that the FDI increases in countries in the highest quartile of perceived corruption relative to countries with lower levels of corruption following the enactment of UBO disclosure laws. I find no consistent effects for entry into or exit from a market in countries that implement UBO laws with higher perceived corruption, existing CbCR reporting requirements, or known tax havens.

In supplemental analyses, I assess the relationship between mandated UBO disclosures and foreign investment for industries with high historical levels of FCPA enforcement. I find no evidence that industry-level enforcement affects how firms invest abroad upon enactment of UBO disclosure laws. Using a supplemental data set from the IMF, I also assess outbound foreign direct investment originating from the United Kingdom (UK), as the UK is often lauded with the US as having some of the strongest anti-corruption laws in the world. I find that when investment is made from UK sources,

the enactment of UBO laws is associated with higher foreign direct investment in countries with higher levels perceived corruption, existing CbCR reporting requirements, and in known tax havens relative to countries without these characteristics.

Overall, I find that the effect of UBO law on foreign direct investment is not significant for all countries, but that is because the direction differs based on certain characteristics of the country in which the investment is made. Holding all else equal, I observe some evidence that firms increase foreign direct investments and capital expenditures in countries with higher levels of perceived corruption following the enactment of UBO disclosure laws. Similarly, firms increase foreign direct investment, capital expenditures, and the employee compensation in countries with existing CbCR requirements relative to those that do not require CbCR. However, holding all else equal, firms in tax havens decrease their foreign direct investment relative to firms in non-havens after the enactment of UBO laws.

This study helps inform regulators on the real effects of the implementation of anti-money laundering and anti-corruption regulation. Specifically, this study provides insight into the impact of UBO regulation, showing how U.S. multinational firms' foreign direct investment changes in countries that enact mandatory beneficial ownership disclosure. Previous studies focus on the impact of enacting new anticorruption laws and the enforcement of those laws. In this study, I assess the impact of a law that could increase the risk of enforcement but could also provide firms with a tool to help limit their anticorruption risk and reduce firms' related compliance costs. Thus, this study may be helpful to legislators in understanding how regulations enhancing transparency, such as UBO regulations, will affect foreign firm investment in their countries.

In addition, the evidence is consistent with the hypothesis that enacting laws mandating public disclosure of beneficial ownership makes it less costly for companies to conduct business in countries with high levels of perceived corruption and helps further our understanding of the effects of non-financial disclosure regulation on corporate investment (e.g., Chen et al. 2018, Rauter 2020). Chen et al. (2018) find that mandatory corporate social responsibility disclosure requirements resulted in positive environmental externalities. De Simone and Olbert (2021) assess how mandating country-by-country reporting affects firms' capital and labor investments and find that firms reduce organization complexity and shift investments to tax havens to support their tax avoidance activities. Rauter (2020) finds that increased transparency surrounding payments to foreign governments to prevent exploitation results in a reallocation of investment from disclosing to non-disclosing firms. In my setting, increased transparency regulations apply to *all* firms within a country that exceed reporting thresholds. I find that, on average, increased transparency of beneficial ownership does not affect foreign direct investment. However, foreign direct investment does change following UBO disclosure laws depending on several factors, including corruption levels of the country where the investment is located, whether the country is a tax haven known for secrecy, and existing tax country by country disclosure laws.

This study also contributes to the literature assessing how anti-corruption measures affect businesses. Prior literature on anticorruption measures have focused on a number of factors, including the effect of corruption on investment and business activities, as well as the domestic and extraterritorial effects of anti-corruption regulation. The relationship between anti-corruption and investment is complex. Corruption is costly to investment

and growth and pervasive in developing countries (Mauro 1995, Wei 2000, D'Souza, and Kaufmann 2013). Evidence suggests that the enactment of anti-corruption regulation and the related enforcement of those laws curbs business and deters firms from investing in countries with high corruption risks (e.g., Christensen et al. 2021; Graham and Stroup 2016, Sanseverino 2022). However, enforcement can help 'level the playing field' between firms in a market. Studies show that anti-corruption enforcement increases firm productivity and affects peer firm performance (Christensen, et al. 2021, Goldman & Zeume 2021; Colonnelli and Prem 2020). While prior research generally focuses on factors that increase compliance risk, this study provides evidence on whether firms change their investment behavior in response to regulations that increased disclosure and transparency surrounding beneficial ownership. This area helps corporations to better perform due diligence on business partners, thereby reducing the related corruption and enforcement risk.

CHAPTER II

BACKGROUND AND HYPOTHESIS DEVELOPMENT

In this study, I focus on a plausibly exogenous shift toward implementing beneficial ownership regulation to study whether disclosure of beneficial ownership requirements affects corporate investment activity. Regulation enhancing transparency over the ultimate beneficial ownership of entities is often enacted in conjunction with anti-money laundering laws to help identify and address potential improper or illegal transactions. While anti-money laundering regulations target processes put into place at financial institutions to combat the movement of ill-gotten funds, the regulations may have a significant impact on companies outside of the financial services industry, given their use by various actors. Research based on the Panama papers, which provided insight into the secretive world of anonymous companies, estimates that between 14% and 29% of all firms use secret offshore vehicles (O'Donovan, Wagner, and Zeume 2019).

The United Nations Office on Drugs and Crime estimates that between 2 - 5% of global GDP, or $800 billion - $2 trillion in illicit funds are laundered every year, much of which passes through anonymous companies (UN Office of Drugs and Crime, n.d). As one aspect to help combat this activity, governments have focused on disclosure of the ultimate beneficial ownership of a company. While definitions may vary, beneficial ownership refers to "the individual or individuals who effectively owns or controls a legal vehicle" (OECD 2019). Beneficial ownership may differ from legal ownership and can be obscured, including through the use of shell companies, complex ownership structures, and use of bearer shares, trusts, or other professional intermediaries (FATF 2014).

Current regulatory advancements governing beneficial ownership vary by country. For example, the United Kingdom introduced a publicly accessible beneficial ownership registry effective April 6, 2016. The regulation requires that U.K. companies identify, disclose, and update any beneficial owners that hold more than 25% of shares for voting rights in a company, have significant control of a company, or can add or remove directors. The draft legislation sets forth similar requirements for British Overseas Territories and dependencies. The E.U.'s Fourth and Fifth Anti-Money Laundering Directives required member states to establish centralized beneficial ownership registries by June 2017 and make the registries available to members of the public, respectively. By the end of 2019, sixty countries implemented beneficial ownership disclosure requirements (see Appendix 1). Specific thresholds and accessibility to the public may vary by country. Taken as a whole, improvements governing beneficial ownership disclosure may provide a more competitive environment for multinational corporations, resulting in a more attractive investment environment for firms looking for new investments abroad.

Shell companies can be used for various legitimate purposes, such as to aid in corporate mergers, cross-border asset exchanges, or to hold intangible assets of another business (FinCEN, 2006). However, the lack of transparency associated with shell companies and the secrecy they often provide poses several risks. Such vehicles may be used to hide the proceeds of a crime, as they help conceal the identity of individuals looking to move funds obtained using illicit means. From a firm perspective, the anonymity provided by shell companies contributes to information asymmetry and allows insiders to expropriate corporate assets at the expense of investors. (Bennedsen

and Zeume 2018, Durnev, Li and Magnan 2012). In addition to the diversion of funds for private benefit, firms can use shell companies to finance bribe payments (O'Donovan, Wagner, and Zeume, 2017). Regulations requiring disclosure of ultimate beneficial ownership are enacted to address the potential misuse of funds and provide transparency into the ownership structures of companies.

The use of anonymous companies to pay bribes exposes firms to anti-corruption enforcement risks. Bribery and corruption have long been the focus of regulators worldwide, an interest that has heightened with increasing globalization. Two significant regulations enacted to help combat corruption include the U.S. Foreign Corrupt Practices Act (FCPA) and the United Kingdom Bribery Act. Both laws are particularly impactful because of their broad scope and extraterritorial jurisdiction. While the U.K. Bribery Act, enacted in 2010, is new and has a somewhat limited enforcement history, the FCPA was enacted in 1977 and has a more comprehensive history of enforcement by both the Department of Justice and the Securities Exchange Commission. I focus on U.S. firms subject to the FCPA, given the more established legislative and enforcement history.

There are two main components to the FCPA: 1) anti-bribery provisions and 2) accounting provisions. The anti-bribery provisions bar U.S. nationals, residents, and companies, as well as certain foreign companies, from making payments or providing items of value to any foreign official for purposes of obtaining or retaining business. The accounting provisions require that companies maintain accurate books and records and implement an adequate internal controls system.

Research shows that businesses respond to the corruption environment and the increased enforcement and litigation risks associated with anticorruption regulation. While evidence surrounding the impact of the enactment of the FCPA and other extraterritorial anticorruption laws on business activities is mixed, anticorruption regulation results in lower firm values (Zeume 2020) and a decline of business in high-risk countries in response to anti-corruption regulation (e.g., Beck, Maher, and Tschoegl 1991, Hines 2005, Sanseverino 2021).

In addition, enforcement of anticorruption laws can impose steep costs on businesses. For example, in 2019 alone, the Securities and Exchange Commission and Department of Justice totaled a record $2.65 billion in fines, penalties, and related fees (Akay 2019). Research finds evidence that the costs associated with increased enforcement and litigation risk affects business decisions. For example, FCPA enforcement activity reduces foreign capital investment in targeted countries attributed to increased costs associated with FCPA (Graham & Stroup 2015) and that decreases the likelihood that US firms acquire companies in countries that have previously been targeted by enforcement (Christensen et al., 2021). Outside of the enforcement costs, the risk of anti-corruption imposes numerous other costs, including reputational costs, investigative costs, and potential criminal liabilities. Despite this evidence, enforcement can improve the overall corruption environment - Goldman and Zeume (2020) and Colonnelli and Prem (2020) find evidence that anticorruption enforcement activities can help ‘level the playing field’ for competitors.

In the face of increased enforcement actions, performing due diligence over a company's business associates is an important aspect of addressing potential legal

exposure. While UBO disclosure laws may provide regulators with additional information to aid in enforcement, they are also intended to ensure that beneficial ownership data is available to the public. The beneficial ownership laws generally require that ultimate beneficial ownership data be published in a centralized database accessible to the public without cost, although implementation to date has varied in the level of accessibility and/or access fees. Public access to beneficial ownership data can provide corporations with some tools to help mitigate their enforcement risk. Firm access to beneficial ownership data can strengthen the company's ability to perform internal anti-corruption controls, as identifying beneficial owners helps confirm that firms are not collaborating with parties with hidden foreign government official ownership to transfer a bribe.

A key tenet of effective anti-corruption control measures includes performing adequate due diligence of third parties (e.g., agents, consultants, distributors, or other business partners), as approximately 90% of FCPA enforcement actions to date involve third parties[2]. Reliance on third parties and other intermediaries represents the biggest bribery risks for companies (Wilkinson 2016). When interacting with third parties, firms must maintain a system of internal controls to help ensure books and records are accurate and prevent the misuse of funds. According to the Department of Justice (2020), performing due diligence over third-party intermediaries includes understanding precisely who you are transacting with and understanding the qualifications and associations of business partners, their reputation, and their relationship with government officials. Due

diligence of business partners is one factor that the Department of Justice and SEC will consider when assessing the effectiveness of a company's compliance program in connection with an FCPA matter.

UBO disclosure, when public, may make such due diligence on business partners less costly and more effective for corporations by limiting the number of investigatory steps required. If beneficial ownership is accurately disclosed, access to that information helps companies understand the parties (owners) they need to investigate. It may also reduce a firm's potential exposure to corrupt acts and related enforcement actions through the ability to conduct due diligence better. Understanding the beneficial ownership of an organization may also help prevent unknowingly making payments to government officials that control anonymous companies and assist in identifying complex schemes (often using shell companies) used to expropriate funds from the company to pay bribes. The ability to prevent improper transactions also reduced potential enforcement costs to a firm.

From a broader perspective, UBO disclosure may limit the ability of corrupt officials to hide illegally gained funds and thus reduce the overall level of corruption in high-risk countries. Prior literature has shown that firms make foreign investment decisions based on the corruption environment in the host country and potential anti-corruption enforcement risk or known enforcement actions (e.g., Mauro 1995, Graham & Stroup 2015). I study foreign direct investment because the enactment of UBO laws may affect both the firm's FCPA enforcement risk through their ability to effectively conduct due diligence and because of its potential impact on the overall corruption environment of a country. While we cannot observe the outcomes of firms' investigations into

potential business partners, we can observe firms' overall investment decisions, of which those due diligence investigations are a part. If firms perceive that the new laws 'level the playing field', they will increase their overall foreign direct investment, and an increased physical presence will be seen through increased capital expenditures, employee compensation, or new subsidiaries within a market. Conversely, if a firm believes the costs of disclosure outweigh the benefits, it will reduce investment, capital, and staff and may seek to exit a market.

In sum, the FCPA and similar anti-corruption regulation imposes significant costs on companies, primarily in the form of costs related to enforcement, litigation, and other related risks. UBO disclosure laws provide regulators with information that increase enforcement risks to companies. The impact of the UBO disclosure law regulation on investment is a function of the perceived increased enforcement risk and the ability of firms to offset that risk. While publicly available UBO disclosure laws equip companies to help mitigate anticorruption and enforcement risk, variations in the cost of or accessibility to centralized data is likely to partially inhibit corporations' access to a degree. Thus, while it is reasonable that firm investment decisions will change after UBO disclosure laws are enacted, the direction of the change will depend on the net effects of the increased enforcement risk and firms' potential for enhanced compliance capabilities. The above factors lead to my first hypothesis:

> H1: Foreign direct investment by U.S. multinational corporations changes in countries that enact regulations mandating corporate beneficial ownership registries.

In addition to the direct effects of bribery and enforcement, transparency can lead to lower overall corruption (Brunetti & Weder 2003, Reinikka and Svensoon 2005), and firms are more likely to invest in an environment with lower levels of corruption (Mauro 1995). Christensen et al. (2021) observe that firm investment behavior depends on the internal control risk of the firm and country corruption risk. Specifically, they note that firms pursuing new investments in countries with high corruption risk spend more time evaluating potential acquisition targets, an activity that will likely be incrementally easier with enhanced ownership requirements. Therefore, it is plausible that the extent to which firms change their foreign direct investment behavior in response to increased transparency measures differs for countries with high levels of perceived corruption. This leads to my second hypothesis:

> H2: Changes in U.S. multinational corporations' foreign direct investment in response to legislation establishing beneficial ownership registries will be greater in countries with higher levels of perceived corruption.

CHAPTER III

RESEARCH DESIGN

I estimate the following difference-in-differences regressions to test Hypothesis 1:

$$OUTCOME_{ckt} = \beta_0 + \beta_1 \text{PostReg}_{ct} + \beta_2 \text{High\_Corrupt}_{ct} + \beta_3 \text{CbCr}_{ct} + \text{X}_{ct} + \text{e}_{ct} \quad (1)$$

where c, k, and t index country, industry, and year, respectively. I include three outcomes in the above specification: FDI, employee compensation, and capital expenditures. $\text{FDI}_{c,k,t}$ is calculated as the natural log of one plus the BEA direct investment position for industry k in country c and year t, scaled by GDP in country c, year t, and multiplied by one hundred. The BEA defines the direct investment position as "the value of direct investors' equity in, and net outstanding loans to, their affiliates." The BEA balance of payments data includes reporting from foreign affiliates in which a U.S. person or company owns or controls at least 10 percent of the voting securities of a foreign enterprise (BEA 2014). I also include an outcome measure for employees, measured as one plus the natural log of employee compensation for industry k in country c and year t scaled by GDP (in millions) in country c, year t, times one hundred. My third outcome variable is capital expenditures, measured as one plus the natural log of capital expenditures for industry k in country c and year t scaled by GDP (in millions) in country c, year t, times one hundred.

PostReg is an indicator variable equal to one in the years after a country enacted a regulation requiring that an organization discloses its ultimate beneficial owners and zero otherwise. I control for the perception of corruption in a country using Transparency International's corruption perception index because corruption decreases private

investment (Mauro 1995). I include an indicator variable equal to one for countries in the top quartile of perceived corruption for a given year and zero otherwise.

One potential concern with assessing how UBO registries affect foreign direct investment relates to regulation implemented in the European Union in 2015. Increased private disclosure requirements in the E.U. requiring country-by-country (*CbCr*) organizational structure and key financial data resulted in Corporations shifting real economic activities (De Simone & Olbert, 2021). To control for the potential effects of CbCr disclosure, I include an indicator variable equal to one in years where CbCr disclosure was required by a given country and zero otherwise.

In addition, a firm's tax strategy may affect how a firm's foreign direct investments change following the enactment of laws mandating UBO disclosure. For example, increased transparency can result in avoidance of tax havens (Bennedsen and Zeume 2018) or in a reallocation of investment to substantiate firm presence in a tax haven (DeSimone and Olbert 2021). I include an indicator variable equal to one for investment made in known tax havens, and zero otherwise. I define tax havens countries as identified as tax havens as of March 4, 2008, by three or more of the following sources: 1) The Organization for Economic Co-Operation and Development (OECD), 2) the US Stop Tax Havens Abuse Act, 3) The International Monetary Fund (IMF), and 4) the Tax Research Organization (See Appendix 2).

I include a vector of controls (X), following prior research. To control for macroeconomic variables expected to vary over time, I include the following variables: the annual growth rate of a country's Gross Domestic Product (GDP), unemployment rates, and inflation rates. I also control for a country's perceived level of corruption using

Transparency International's corruption perception index. I include a country's statutory tax rates to control for firm investment tax strategies. I also include various fixed effects to control for unobservable time-invariant country characteristics or time-varying macroeconomic factors that might affect investment decisions. Continuous variables are winsorized at 1% and 99% levels.

As another measure of foreign direct investment, I obtain firm subsidiary information based on their disclosed material subsidiaries in the Exhibit 21 of the 10-K reports (Dyreng and Lindsey, 2009). In keeping with the hypothesis that outbound foreign direct investment will change in countries that enact UBO disclosure laws, I anticipate firm presence will change in a country that enacts UBO disclosure laws. I estimate the following difference in difference regression using a linear probability model:

$$Segment_{ict} = \beta_0 + \beta_1 \text{PostREG}_{ct} + \beta_2 \text{High\_Corrupt}_{ct} + \beta_3 \text{CbCr}_{ct} + X_{ct} + Y_{it} + e_{pt} \quad (2)$$

where i, c, and t index firm, country, and year, respectively. For the dependent variable, *Segment*, I include two measures representing the presence of a subsidiary for a given firm –country-year 1) market entry and 2) market exit. For market entry, I require that a firm has zero subsidiaries in a given country in year t-1 for inclusion in the sample. I use an indicator variable equal to one if a firm-country-year at time t has at least one subsidiary disclosed and zero otherwise. To test market exit, I require at least one subsidiary in a country in year t-1 for inclusion in the sample. I use an indicator variable of one if a firm-country-year at time t has zero subsidiaries disclosed and zero otherwise.

Like equation 1, POSTREG is an indicator variable equal to one for country-years after UBO disclosure has been mandated and zero otherwise. I retain the indicator variables for countries with high perceived corruption, existing country-by-country reporting requirements, and country controls (X_{ct}) included in the first specification. In addition, I add a vector of firm-level controls (Y_{it}), including tax avoidance, firm size, employee compensation, cash and short-term investments, return on assets, intangibles, and leverage. See Appendix 3 for variable definitions. Finally, I include various fixed effects as in equation (1).

To assess whether firms react differentially to UBO disclosure in countries with high levels of perceived corruption, I estimate the following regressions:

$$OUTCOME_{ckt} = \beta_0 + \beta_1 \text{PostREG}_{ct} + \beta_2 \text{High\_Corrupt}_{ct} + \beta_3 \text{CbCr}_{ct} + \beta_4 \text{PostREG}_{ct} \text{ X High\_Corrupt}_{ct} + \beta_5 \text{PostReg}_{ct} \text{ X CbCr}_{ct} + + \beta_5 \text{PostREG}_{ct} \text{ X Tax\_Haven}_{ct} + X_{ct} + e_{ct} \quad (3a)$$

$$SEG_{ict} = \beta_0 + \beta_1 \text{PostREG}_{ct} + \beta_2 \text{High\_Corrupt}_{ct} + \beta_3 \text{CbCr}_{ct} + \beta_4 \text{PostREG}_{ct} \text{ X High\_Corrupt}_{ct} + \beta_5 \text{PostReg}_{ct} \text{ X CbCr}_{ct} + + \beta_5 \text{PostREG}_{ct} \text{ X Tax\_Haven}_{ct} + X_{ct} + Y_{ict} + e_{ct} \quad (3b)$$

I retain the variable definitions and the macroeconomic and firm-level control variables mirroring those specified in equations 1 & 2 above. For each specification, I interact PostReg, the variable of interest, with an indicator variable equal to one for country-years in the highest quartile of perceived corruption. In addition, I include

interactions for country-by-country reporting and tax havens because of the potential tax planning implications of mandating disclosure of beneficial owners.

CHAPTER IV

DATA AND SAMPLE

Data

I leverage two different data sets to test my hypotheses. First, I use country-industry level data on the U.S. foreign direct investment position and activities of multinationals obtained from the U.S. Bureau of Economic Analysis (BEA) for my first test from 2009 to 2019. [3] These data are reported on a historical cost basis. I also obtain country-industry level data on capital expenditures and employee compensation from the BEA. I leverage country-industry level data because the corruption risks, and therefore a company's response to potential changes to those risks, may differ significantly based on the company's industry. This data is available through 2018.

Where the BEA suppressed country-year data to avoid disclosure of data of individual companies, I assume a zero balance[4]. In some instances, BEA provides a range of values for the employee compensation in an industry-country observation. As specific values are not available for these observations, I exclude them. I include macroeconomic factors, including change in Gross Domestic Product (GDP), unemployment rates, and inflation rates from the World Bank, to control for factors that are expected to affect a firm's decision to initiate or increase the firm's direct investment in other countries[5]. To control for the impact of a country's corporate tax rates on foreign investment decisions, I use combined corporate income tax rates from KPMG. For all country observations, I require non-missing data at the intersection of the BEA, World Bank, OECD, and

[3] https://apps.bea.gov/iTable/iTable.cfm?reqid=2&step=1&isuri=1#reqid=2&step=1&isuri=1
[4] In untabulated analysis, I exclude observations where the BEA suppressed observations.
[5] https://databank.worldbank.org/reports.aspx?source=2&series=FP.CPI.TOTL.ZG&country=

effective tax rates. I obtain the dates that countries implement country-by-country disclosure from the OECD. I hand collect the dates that governments enact regulations mandating disclosure of ultimate beneficial ownership.

To test whether firms are more or less likely to hold a material subsidiary in a country in response to the enactment of AML regulation, I use firm subsidiary information based on disclosed material subsidiaries in the Exhibit 21 of the 10-K reports (Dyreng and Lindsey, 2009). My sample includes firm-country-year observations for US-listed firms (exchg 11-20) in Compustat where a firm had an Exhibit 21 subsidiary disclosure for at least one firm-country-year in the sample period and for which firm and country-level controls were not missing. I exclude segment data for firms with a fiscal year-end other than December for both samples because they do not align with country-level controls established on a calendar-year basis. I also exclude firms in the financial services industry (sic 6000-6799) because their investment decisions may differ as the costs and benefits associated with the AML regulation differ from other sectors[6].

Sample Construction

Table 1, Panel A summarizes the sample construction process for the balance of payments data. I begin with 13,057 country-industry-year observations from the consolidated balance of payments and activities of multinationals data from the Bureau of Economic Analysis from 2009 to 2019. I exclude 638 observations for firms in the Finance and Depository Institutions industries because financial firms are subject to different regulatory environments and are directly impacted by the UBO and anti-money

[6] BEA balance of payment data presents industry-level data at a summary level based on NAICS codes, rather than SIC codes. For analysis relying on BEA data, I exclude payments classified as "Finance (except depository institutions) and insurance" and "Depository institutions."

laundering regulations. I exclude 5,027 observations for foreign direct investment because of a missing dependent variable and 546 observations missing control variables, leaving 6,846 observations. For the capital expenditures sample, I exclude 6,949 observations where the dependent variable is missing and 419 observations with missing control variables, resulting in a total of 5,051 observations. The employee compensation sample excludes 5,682 observations with missing dependent variables and 552 observations missing control variables, resulting in a sample of 6,185 observations.

Table 1, Panel B summarizes the sample construction process for firms' Exhibit 21 disclosures in the annual financial statements. I begin with 477,372 firm-country-year observations at the intersection of Compustat Data. The data includes all firm-country combinations for which a firm reported at least one subsidiary in a country during the sample period. I exclude 127,989 observations if their fiscal year-end was not December or if the only year that they disclosed a material segment in their Exhibit 21 disclosure was for a non-December fiscal year-end. I also exclude 7,216 observations because the firm is not listed on a U.S. Stock Exchange (Compustat item exchg 11 -20) and 41,820 observations because the firms are in the financial service industry. For tests of market entry, I exclude 183,286 observations where a firm-country observation had at least one subsidiary in year t-1, and 26,329 observations that were missing one or more control variables, resulting in a total of 90,732 observations for market entry tests. For tests of market exit, I exclude 117,061 observations where a firm-country no subsidiaries in year t-1, and 28,684 observations that were missing one or more control variables, resulting in a total of 154,602 observations.

CHAPTER V

RESULTS

Summary Statistics

Table 2, Panel A shows the descriptive statistics for foreign direct investment, capital expenditures, and employee compensation from the BEA data set. On average, 6% of the observations occur after a country has enacted UBO disclosure requirements. Approximately 20% of the observations occur after a market has implemented country-by-country reporting requirements, and 14% of the observations relate to operations in tax havens. Average unemployment, inflation, and annual GDP growth are approximately 7.1%, 2.9%, and 1.6%, respectively.

Table 2, Panel B shows the descriptive statistics for new market entry based on a firm's Exhibit 21 disclosures. For 19% of the observations, a subsidiary was disclosed in a given firm and country combination in year t when no firm was disclosed in year t-1. Four percent of the observations occurred after the enactment of UBO regulations, 14% relate to countries with existing CbCR reporting requirements, and 14% are tax havens. The descriptive statistics for exit from a market are shown in Table 2, Panel C. Of the sample firm country observations, approximately 5% included a subsidiary disclosure in year t-1 and none in year t. Approximately 7% percent of the observations occurred after the enactment of UBO regulations, 24% have existing CbCR requirements, and 14% relate to operations in tax havens.

Univariate Correlations

Table 3 reports univariate correlations between the variables. Foreign direct investment and employee compensation are significantly and positively correlated with UBO disclosure requirements, but negatively correlated with unemployment, and inflation. All three of the investment measures are significantly and negatively associated with perceived high corruption, unemployment, and inflation. Foreign direct investment is also negatively high corruption, unemployment, inflation, GDP growth, and statutory tax rates.

Entry of a material subsidiary into a market is positively and significantly associated with the enactment of UBO laws, CbCR requirements, and tax havens. Market entry is negatively associated with countries with perceived high corruption. Exit of a material subsidiary from a market is significant and negatively associated with enactment of UBO laws, CbCR requirements, and tax havens, but positively associated with high levels of perceived corruption. In addition, the data shows that UBO disclosure requirements are negatively associated with operations in tax havens and countries with perceived high corruption but are positively associated with country-by-country disclosure requirements.

Effects of Ultimate Beneficiary Ownership Regulation on Foreign Direct Investment, Capital Expenditures, and Employee Compensation

I begin the empirical analysis with a staggered difference in differences design using OLS to assess the impact of UBO disclosure on outbound investment activities by U.S. multinationals. I estimate differences in $Foreign\ Direct\ Investment_{k,c,t}$, *Capital*

Expenditures$_{k,c,t,}$ and *Employee Compensation* $_{k,c,t}$. I control for factors that influence firms' foreign direct investment activities, such as GDP growth, inflation, and statutory tax rates in the host country.

The results are reported in Table 4, panel A. Columns (1) through (3) present results for foreign investment from the BEA's balance of payments data; Columns (4) through (6) estimate the effects of UBO disclosures on capital expenditures, and Columns (7) through (8) show the estimated impact of the regulation on the employee compensation for foreign affiliates. I present the results using several variations of fixed effects. Columns (1), (4), and (7) present the results using year and country fixed effects. Columns (2), (5), and (8) present the results using year and industry fixed effects. Columns (3), (6), and (9) present the results using industry times country fixed effects.

I do not observe a consistent, significant association between the implementation of UBO disclosure laws and foreign investment activities for any of the three measures, but overall evidence suggests that the association between implementation of UBO disclosure laws and the investment measures analyzed is negative. Specifically, in all columns, the coefficient on *PostReg* is negative or equal to zero for all specifications, and the coefficient is negative and significant in three instances. In column 2, the coefficient on the treatment variable (PostReg) is weakly significant at 0.09 when using industry and year fixed effects, suggesting that implementation of regulation mandating UBO disclosure is associated with 9% lower foreign direct investment. Similarly, when assessing the impact of UBO disclosure regulation on capital expenditures, I observe that capital expenditures are significantly and negatively (-0.011) associated with mandating beneficial ownership disclosure using year and industry fixed effects (Column 5),

suggesting enactment of UBO disclosure laws is associated with 1.1% lower capital expenditures. Turning to employee compensation, the coefficient on the PostReg variable is significant and negative (-0.004) when the specification includes year and country fixed effects. Consistent with prior literature, tax havens are associated with positive economic activity, and countries with high levels of perceived corruption are negatively associated with foreign direct investment.

Effects of Ultimate Beneficiary Ownership Regulation on Material Subsidiaries in a Market

As alternate proxies for foreign direct investment activity, I assess whether a firm is more or less likely to establish a material subsidiary in a new market (country) or to exit a market in response to UBO disclosure requirements. Using firms' Exhibit 21 disclosures in the financial statements and controlling for firm-specific characteristics that may affect investment, I estimate the staggered difference in differences model described in equation (2). The results are presented in Table 4, Panel B. Columns (1) through (3) show the results using Market Entry as the dependent variable, and I show the results using Market Exit as a dependent variable in Columns (4) through (6). I again present the results using various fixed effects, with country and year fixed effects in Columns (1) and (4), industry and year fixed effects in Columns (2) and (5), and industry times country fixed effects in Columns (3) and (6).

I find limited evidence that the enactment of UBO laws changes a firm's propensity to establish or maintain a material entity in a market. Specifically, for tests of market entrance, the coefficient on *PostReg* is positive in all three columns but is only significant when I include industry times year fixed effects. In Column (3), the results

suggest that enactment of UBO disclosure requirements increases the likelihood of establishing a new subsidiary in a country where none existed prior by 0.029. For tests of market exit, the coefficient on *PostReg* is negative in all three columns but is not significant for any of the specifications. Overall, the results provide limited evidence that increased transparency into the beneficial ownership of corporate vehicles affects firm decisions on establishing or maintaining a significant subsidiary in a country, though the results are sensitive to model specification.

Ultimate Beneficiary Ownership Disclosures and Countries with High Perceived Corruption

Foreign Direct Investment, Capital Expenditures, and Employee Compensation

My second test examines whether the perceived corruption levels in a country affect how foreign direct investment changes after UBO disclosure is mandated. In hypothesis two, I predict that changes in U.S. multinational corporations' foreign direct investment will be positive in countries with higher levels of perceived corruption upon the enactment of UBO laws. To assess this, I include an interaction between *PostReg* and an indicator variable for countries in the highest quartile of perceived corruption (*High Corrupt * PostReg*). I include interactions for countries that have enacted CbCR reporting requirements *(CbCR * PostReg*), as those countries have enacted regulations requiring that firms disclose certain financial information to tax authorities on a country-by-country basis. I also include an interaction between PostReg and an indicator variable for tax havens (*Tax Haven * PostReg*), as companies with hidden or undisclosed beneficial ownership are often more prevalent in tax havens.

Table 5 presents this analysis. The results using *Foreign Direct Investment* $_{k,c,t}$, *Capital Expenditures*$_{k,c,t,}$ and *Employee Compensation* $_{k,c,t}$ as dependent variables, as previously defined, are shown in Panel A. When foreign direct investment is the dependent variable, the coefficient on *PostReg* is statistically significant and negative, and the interaction between *PostReg* and *High Corruption* is statistically significant and positive for two of three specifications. Similarly, when capital expenditures or employee compensation is each the dependent variable, the coefficient on *PostReg* is statistically significant and negative for two of three specifications, and the coefficient on *High Corrupt * PostReg* is positive and statistically significant for one of three specifications. The results are sensitive to the fixed effects specification. Using year and industry fixed effects, I observe that enactment of UBO disclosure laws is associated with 17.7% higher Foreign Direct Investment (Column 2) in country years with the highest quartile of perceived corruption compared to those with lower levels of perceived corruption. Using that same specification, I observe a similar pattern with capital expenditures (Column 5), where the coefficient on PostReg * High Corruption is positive and significant at 0.016, suggesting that enactment of UBO disclosure laws is associated with 1.6% higher levels of capital expenditures in countries in the highest quartile of perceived corruption relative countries with lower perceived corruption. When employee compensation is the dependent variable, the coefficient on *High Corruption * PostReg* is positive and statistically significant (0.031), and the coefficient on *PostReg* is negative and significant (-0.052).

Although not the interactions of primary interest, I observe that the coefficient on the interaction between country-by-country requirements (*CbCR)* and UBO requirements

(*PostReg*) is also significant and positive for all three dependent variables, depending on the fixed effects specification used. One potential interpretation of this result is that U.S. multinational firms have already incurred the costs of increased private disclosure to authorities, and the observed effect isolates the perceived benefits of UBO disclosures where those potential costs have already been incurred. When foreign direct investment is the dependent variable, I also observe a negative interaction between countries identified as tax havens and UBO disclosure requirements (*PostReg*) for all three specifications, and a significant, negative coefficient for one of three specifications, suggesting that firms decrease foreign direct investment in locations where anonymous corporate vehicles are most present after mandated beneficial ownership disclosure. For foreign direct investment, the coefficient on UBO disclosure requirements absent these interactions is negative and significant for three of five specifications. This suggests that firms reduce investment due to the costs associated with disclosure in countries without high perceived corruption, existing reporting requirements, or known tax haven.

Material Subsidiaries – Entry into or Exit from a Market

Table 5, Panel B presents the results using market entry and market exit as dependent variables. I do not observe that UBO disclosure requirements have a significant effect on whether a U.S. multinational establishes (or removes) a material subsidiary in (from) a country with high perceived corruption. I observe no significant coefficients for either market entry or market exit after UBO disclosure requirements are mandated, either for countries with high perceived corruption, existing country-by country reporting requirements, or in known tax havens. The coefficient on *PostReg* without these interactions also remains insignificant for all specifications.

There are a few potential explanations for why I observe significant results on *Foreign Direct Investment*$_{k,c,t,}$ and *Capital Expenditures*$_{k,c,t,}$ but do not observe that firms are more or less likely to establish or maintain a material subsidiary in a country after beneficial ownership disclosure requirements are enacted. First, firms may modify their foreign direct investment levels in existing subsidiaries rather than establish a new material subsidiary or exit a market. Those changes in investment may not be sufficiently high to affect whether the firm discloses it as a material subsidiary. Second, the foreign direct investment data from the BEA includes survey responses from all U.S. persons that own at least 10 percent of a foreign enterprise, while Exhibit 21 segment data is limited to U.S. multinational firms (with the requisite control variables) that are publicly listed on U.S. stock exchange or OTC markets. Thus, differences between foreign direct investment and market exit/entry might result from differences in the types of firms responding to the enactment of UBO disclosure requirements (e.g., public vs. private firms).

UBO Disclosures and Industries with High FCPA Enforcement Levels

For my next test, I assess the impact of UBO disclosure regulation on foreign direct investment in industries that have historically seen higher levels of FCPA enforcement actions. It is plausible that firms exposed to corrupt industries react differently to UBO disclosure regulations. On the one hand, firms operating in industries with higher levels of enforcement may associate a higher enforcement risk with the UBO disclosure requirements. For example, Zeume (2016) examines the effect of the enactment of the U.K. Bribery Act and finds that firms that operate in high-corruption industries were negatively affected by the new anti-corruption law. Alternatively,

increased UBO disclosure may benefit firms through an improved corruption environment and enhanced visibility into the ownership structures of their business partners.

According to the University of Stanford's FCPA Clearinghouse (2021), approximately one-third of FCPA enforcement matters have been in the oil and gas or healthcare industries. Therefore, I separate my sample into two groups – the first for high-enforcement industries, as defined above, and the second for all other industries. The Stanford FCPA clearinghouse industries are not based on SIC/NAICS code and may not provide a direct match to BEA / Exhibit 21 data. I include mining and chemicals (including pharmaceuticals) as high-enforcement industries in the BEA data. These BEA industries most closely match the high-enforcement industries identified by Stanford based on a review of the underlying ISI codes. For the Exhibit 21 data, I include the Fama & French 17 industries of mines, oil, and consumer drugs, soap, perfumes, and tobacco (including pharmaceuticals). I also retain the interactions of *PostReg* with countries with high levels of perceived corruption, country-by-country reporting, and tax havens. I keep country and firm controls used in the main tests and present results using industry fixed effects and cluster at the year level.

The results are shown in Table 6. Overall, I do not find evidence that the relationship between investment and the enactment of UBO disclosure requirements varies between high enforcement industries and other industries. When foreign direct investment is the dependent variable, I do not observe a significant association on the PostReg coefficient overall, nor do I observe a significant coefficient on the interaction variable for *High Corrupt * PostReg* for industries that have experienced high levels of

enforcement. Similarly, I do not observe a significant coefficient on the interaction variable for new market entry or exit from the market in high enforcement industries, although I do observe a positive, significant association between enactment of UBO disclosure laws and entry into a new market for industries that are not considered to be high-enforcement industries. However, review of the chi-squared statistic shows that there is not a significant difference between the coefficients on PostReg for high-enforcement industries when compared to other industries. I find little association between enactment of UBO disclosure laws and the foreign direct investment, market entry, and market exit measures.

UBO Disclosures and Anti-Corruption Enforcement: Beyond the U.S.

In 2017, the US enacted Tax Cuts and Jobs Act of 2017, a sweeping tax law that affected multiple aspects of individual and corporate taxation. The enactment of new tax laws on US firms could have significant effects on how US firms invest abroad, which could affect our results. Because of the timing of the law, it is not possible to disentangle the potential effects of the changes to the tax law on US outbound foreign direct investment abroad. However, we can assess how other UBO disclosures affected other countries' outbound direct investment across the world, and how those investment activities abroad varied based on anti-corruption efforts at home. Specifically, I turn to the UKBA, and assess whether the impact of UBO disclosure laws on foreign direct investment originating from the UK is similar to that originating in the US per the previous analyses. The United States' Foreign Corrupt Practices Act (FCPA) of 1977 is one of the oldest anti-corruption regulations with a global reach and a strong history of enforcement, but the United Kingdom's Bribery Act (UKBA), enacted in 2010, is also

held out as one of the `toughest anti-corruption regulations in the world' (e.g., Given & Kerr 2018, O'Shea 2019, Randhawa, and Fraser 2021).

Like the FCPA, the UKBA prohibits bribery of foreign government officials, has an extraterritorial reach, and can result in prison time and/or fines for violators. The UKBA, enacted in 2010, has a broader scope than the US's FCPA, as it prohibits both the giving and receiving of bribes for commercial and public bribery (vs. the FCPA, which prohibits the giving or promising to give something of value to government officials) and can potentially result in stiffer penalties. Enforcement of UKBA is much more nascent, however, with only a handful of convictions and/or deferred prosecutions under section 7 of the act (failure of an organization to prevent bribery). Similarly, only a limited number of cases had been brought to court to date under sections 1 and 2 of the UKBA (prohibiting bribery of a foreign public official and bribery of a person, respectively)[7]. Despite the limited enforcement history of the UKBA, it is often held out as one of the strongest global anti-corruption regulations today (Randhawa and Davies 2021).

I also assess the relationship between foreign direct investment and UBO disclosure laws for OECD and non-OECD countries, as the OECD anticorruption treaty was an important advancement of anticorruption efforts. When the FCPA was first enacted, the U.S. was the first to criminalize bribes made to foreign officials (Spahn 2013). After the enactment of the FCPA, U.S. businesses grew concerned about their ability to compete abroad with firms that were not prohibited from paying bribes to

[7] According to Wilmer-Hale (2021), the Crown Prosecution Service ("CPS") instituted criminal proceedings in sixteen cases under sections 1 and 2 from the UKBA from July 2011 to February 2015, and the Serious Fraud Office (SFO) brought four cases through March of 2020. Under section 7 of the UKBA, there have been two convictions and six deferred prosecution agreements, two-thirds of which had been approved by the courts as of March 2021.

foreign officials. To help address this matter, the US pressured the OECD to adopt similar measures (Convention on Combatting Bribery of Foreign Public Officials in International Business 1998). As a result, in 1997 the U.S. and 33 countries signed the anti-bribery convention (ABC), which requires participating countries to criminalize bribery of foreign public officials. If anticorruption regulation affects how firms change their foreign direct investment in response to enactment of UBO laws, then I should observe similar results when assessing OECD member countries compared to non-member countries. However, while member countries have established the requisite regulations, the ABC does not mandate specific enforcement measures and as such, enforcement varies significantly among member countries (Brewster 2014).[8] Accordingly, if my hypotheses hold, I anticipate that the effect of UBO laws on foreign direct investment will be less significant than those observed in the UK/US.

While the BEA foreign direct investment data only contains information regarding outbound investment made by US firms in other countries, the International Monetary Fund (IMF) provides direct investment data for cross-country pairs, which includes the country from which the investment originates, and the country where the investment was made. To analyze the impact of UBO disclosure laws on foreign direct investment for countries other than the US, I utilize the inbound direct investment data (i.e., direct investment into the reporting economy) from the Coordinated Direct Investment Survey (CDIS) from the IMF. I begin with 349,074 cross-country year combinations for 2009 – 2019, exclude 7,332 observations with a missing dependent

[8] E.g., As of 2013, Transparency International indicates only four countries are 'active' enforcers (Brewster 2014).

variable and 226,200 observations with one or more missing controls to arrive at a sample of 115,542 observations from the IMF data.

I analyze the association between UBO laws and foreign direct investment originating in (1) all sample countries, (2) the US, (3) the UK, (4) the US and UK combined, (5) countries other than the US or the UK, (6) OECD member countries and (7) OECD non-member countries. The results are shown in Table 7. For all countries (Column 1), the coefficient estimate for PostReg is negative and weakly significant, and the PostReg X High Corruption coefficient estimate (-0.027) is insignificant, suggesting that overall, the implementation of UBO disclosure laws has limited effect on investment on country pairs. Similar to the analysis performed using BEA data, I observe a negative coefficient on the PostReg variable and positive coefficient when the country invested in is interacted with UBO disclosure requirements (PostReg * High Corruption (destination), although with the IMF data set, the coefficients are not significant.[9] The results for outbound investments originating from the UK are shown in Column 3, and the UK and US combined are shown in Column 4. In both cases, the coefficient on PostReg remains negative and is significant at the 0.05 level, and the interaction between PostReg and countries with the highest levels of perceived corruption. For the US and UK combined (Column 4), I observe that the enactment of UBO disclosure laws in countries with high levels of corruption is associated with 16.8% higher foreign direct investment countries with high levels of perceived corruption relative to those that are not perceived to be highly corrupt, and lower levels of investment in countries without such

[9] The IMF data set and the BEA data set are based on different sets of surveys. The BEA collects outbound investment made by US firms in other countries. The IMF data set collects investment data from the country in which the investment is made. Therefore, there may be some differences between the two data sets.

laws (and that are not tax havens or have existing country by country disclosures). The enactment of UBO laws in tax havens and countries with existing CbCR disclosure requirements also remains positive and significant.

If UBO disclosure laws have a greater impact on countries with stronger anti-corruption laws and potentially higher enforcement risk, I would expect to see significant results in the US and UK, but not in other countries. Column 5 shows the results for other countries, with less consequential anti-corruption regulations. For those countries, I observe a negative coefficient (0.026) on PostReg, significant at the 10% level. In the comparison of the coefficient for the US and UK combined (Column 4) to other countries (Column 5), the coefficients on PostReg and PostReg * High Corruption interaction, I do not observe a significant coefficient on the PostReg * High Corruption interaction, which supports the hypothesis that anti-corruption laws are associated with the changes in foreign direct investment upon enactment of UBO disclosure laws. Turning to the OECD member countries, the coefficient on PostReg remains negative, albeit insignificant, and the coefficient on PostReg * High Corruption remains positive and significant, but of less magnitude than the US/UK. The results also suggest that our initial results for the US are not completely confounded by the 2017 Tax Cuts and Jobs Act, although the results for the US are insignificant using the IMF data set.

CHAPTER VI

CONCLUSION

In this study, I examine a consequence of legislation requiring disclosure of ultimate beneficial ownership on foreign direct investment. The enactment of UBO disclosure laws seeks to enhance transparency into the person or persons that control an entity and limit opportunities for tax evasion and illicit uses of funds. I examine whether firms change their foreign direct investment behavior in response to this disclosure change. I test this relationship using a staggered difference-in-difference research design and assess the impact on foreign direct investment, capital expenditures, and the employee compensation at affiliates in countries that have adopted UBO disclosure laws. I also assess whether firms are more or less likely to establish or maintain a material subsidiary in affected countries.

I do not find a significant relationship between firm foreign direct investment, capital expenditures, or employee compensation and UBO laws in my main tests. However, in assessing a firm's propensity to enter or exit a market in response to these laws, I find some evidence that firms are more likely to enter a market and less likely to exit a market in response to mandated UBO disclosure. In addition, in cross-sectional tests, I observe an increase in foreign direct investment and capital expenditures in countries with high levels of perceived corruption. I also find that capital expenditures and employee compensation increase upon enactment of UBO laws where country-by-country reporting is already in place and that foreign direct investment decreases in tax havens and in countries where none of the additional factors apply. Finally, I observe similar results when assessing outbound foreign direct investment originating from the

UK, another country often highlighted as having some of the strongest anti-corruption measures in the world. The results are sensitive to the fixed effects specification used.

Overall, this study shows that the enactment of UBO disclosure requirements affects U.S. multinational firms' foreign direct investment decisions, particularly in countries with high corruption or known tax havens. These results supplement our understanding of the effects of corporate investment in response to non-financial disclosure regulation for companies (e.g., Chen et al. 2018, Rauter 2020) and helps inform regulators on the potential impact of such laws, particularly for countries that have yet to enact UBO disclosure laws. This study also informs a broad literature that studies how anti-corruption measures affect businesses. Specifically, this study addresses how foreign direct investment behavior changes in response to laws increasing transparency into the ownership structure of firms within a country.

APPENDIX A

BENEFICIAL OWNERSHIP REGULATION

Country Name	ISO3	UBO legislation in force
Austria	AUT	Jan-2018
Bahamas	BHS	Dec-2018
Belgium	BEL	Oct-2018
Bermuda	BMU	Mar-2018
Ghana	GHA	Aug-2019
Brazil	BRA	Jul-2017
British Virgin Islands	VGB	Jun-2017
Bulgaria	BGR	Mar-2018
Cayman Islands	CYM	Feb-2017
Ecuador	ECU	Feb-2017
Costa Rica	CRI	Apr-2018
Croatia	HRV	Nov-2017
Cyprus	CYP	Apr-2018
Czech Republic	CZE	Jan-2018
Denmark	DNK	May-2017
Dominican Republic	DOM	Jun-2017
San Marino	SMR	Dec-2017
Estonia	EST	Nov-2017
Finland	FIN	Apr-2019
France	FRA	Aug-2017
Germany	DEU	Jun-2017
Indonesia	IDN	Mar-2018
Gibraltar	GIB	Jun-2017
Greece	GRC	Jul-2018
Guernsey	GGY	Jan-2017
Peru	PER	Jan-2019
India	IND	Jun-2018
Philippines	PHL	Nov-2018
Ireland	IRL	Jun-2019
Isle of Man	IMN	Jul-2017

Country Name	ISO3	UBO legislation in force
Italy	ITA	May-2017
Jersey	JEY	Jul-2017
Lebanon	LBN	Dec-2018
Latvia	LVA	Nov-2017
Iceland	ISL	Feb-2019
Lithuania	LTU	Jan-2019
Luxembourg	LUX	Feb-2019
Norway	NOR	Mar-2019
Malta	MLT	Jan-2018
Monaco	MCO	Jun-2018
Nauru	NRU	Dec-2018
North Macedonia	MKD	Jun-2018
Botswana	BWA	Jun-2019
Colombia	COL	Dec-2019
Paraguay	PRY	Dec-2019
Poland	POL	Oct-2019
Portugal	PRT	Sep-2017
Romania	ROU	Jul-2019
Saudi Arabia	SAU	Nov-2017
Slovakia	SVK	Nov-2018
Slovenia	SVN	Nov-2016
Spain	ESP	Mar-2018
Sweden	SWE	Aug-2017
Trinidad & Tobago	TTO	May-2019
Tunisia	TUN	Jul-2018
Turks & Caicos Islands	TCA	May-2018
United Kingdom	GBR	Apr-2016
Ukraine	UKR	Oct-2014
Uruguay	URY	Jun-2017
Vanuatu	VUT	May-2018

APPENDIX B

COUNTRIES IDENTIFIED AS TAX HAVENS

Country	ISO3	OECD	US Stop Tax Havens Abuse Act	IMF	Tax Research Org	Tax Haven
Andorra	AND	Un-cooperative	No	Yes	Yes	1
Anguilla	AIA	Cooperative	Yes	Yes	Yes	1
Antigua & Barbuda	ATG	Cooperative	Yes	Yes	Yes	1
Aruba	ABW	Cooperative	Yes	Yes	Yes	1
Bahamas	BHS	Cooperative	Yes	Yes	Yes	1
Barbados	BRB	No	Yes	Yes	Yes	1
Bahrain	BHR	Cooperative	No	Yes	Yes	1
Belize	BLZ	Cooperative	Yes	Yes	Yes	1
Bermuda	BMU	Cooperative	Yes	Yes	Yes	1
Botswana	BWA	No	No	Yes	No	0
British Virgin Islands	VGB	Cooperative	Yes	Yes	Yes	1
Brunei	BRN	No	No	Yes	No	0
Cape Verde	CPV	No	No	Yes	No	0
Cayman Islands	CYM	Cooperative	Yes	Yes	Yes	1
Cook Islands	COK	Cooperative	Yes	Yes	Yes	1
Costa Rica	CRI	No	Yes	Yes	Yes	1
Cyprus	CYP	Cooperative	Yes	Yes	Yes	1
Dominica	DMA	Cooperative	Yes	Yes	Yes	1
Dubai	DXB	No	No	Yes	No	0
Gibraltar	GIB	Cooperative	Yes	Yes	Yes	1
Grenada	GRD	Cooperative	Yes	Yes	Yes	1
Guernsey	GGY	Cooperative	Yes *	Yes	Yes	1
Hong Kong	HKG	No	Yes	Yes	Yes	1
Isle Of Man	IMN	Cooperative	Yes	Yes	Yes	1
Ireland	IRL	No	No	Yes	Yes	0
Jersey	JEY	Cooperative	Yes	Yes	Yes	1
Latvia	LVA	No	Yes	No	No	0
Lebanon	LBN	No	No	Yes	Yes	0
Liberia	LBR	Cooperative	No	No	Yes	0
Liechtenstein	LIE	Un-cooperative	Yes	Yes	Yes	1
Luxembourg	LUX	No	Yes	Yes	Yes	1
Macau	MAC	No	No	Yes	Yes	0
Malaysia (Labuan)	MYS	No	No	Yes	Yes	0
Maldives	MDV	No	No	No	Yes	0
Malta	MLT	Cooperative	Yes	Yes	Yes	1
Marshall Islands	MHL	Cooperative	No	Yes	Yes	1
Mauritius	MUS	Cooperative	No	Yes	Yes	1
Monaco	MCO	Un-cooperative	No	Yes	Yes	1
Montserrat	MSR	Cooperative	No	Yes	Yes	1
Nauru	NRU	Cooperative	Yes	Yes	Yes	1

Netherlands Antilles	ANT	Cooperative	Yes	Yes	Yes	1
Niue	NIU	Cooperative	No	Yes	Yes	1
Palau	PLW	No	No	Yes	No	0
Panama	PAN	Cooperative	Yes	Yes	Yes	1
Samoa	WSM	Cooperative	Yes	Yes	Yes	1
San Marino	SMR	Cooperative	No	Yes	No	0
Seychelles	SYC	Cooperative	No	Yes	Yes	1
Singapore	SGP	No	Yes	Yes	Yes	1
St. Kitts & Nevis	KNA	Cooperative	Yes	Yes	Yes	1
St. Lucia	LCA	Cooperative	Yes	Yes	Yes	1
St. Vincent& the Grenadines	VCT	Cooperative	Yes	Yes	Yes	1
Switzerland	CHE	No	Yes	Yes	Yes	1
Turks & Caicos Islands	TCA	Cooperative	Yes	Yes	Yes	1
United Kingdom	GBR	No	No	No	Yes	0
Uruguay	URY	No	No	Yes	No	0
U.S. Virgin Islands	VIR	Cooperative	No	No	No	0
Vanuatu	VUT	Cooperative	Yes	Yes	Yes	1

The above table specifies countries identified as tax havens as of March 4, 2008, by three or more of the following sources: 1) The Organization for Economic Co-Operation and Development (OECD), 2) the US Stop Tax Havens Abuse Act, 3) The International Monetary Fund (IMF), and 4) the Tax Research Organization. The data was consolidated by globalpolicy.org and can be found at https://www.reuters.com/article/taxhavens/factbox-tax-havens-of-the-world-idUSL0423271120080304. Countries considered tax havens for the purposes of this paper are demarcated with a '1' in the column 'Tax Haven'

* *(includes Sark/Alderney)*

APPENDIX C

VARIABLE DEFINITIONS

PostReg	Indicator variable equal to one in observation years after UBO disclosure laws were in force and zero otherwise.
FDI	Calculated as the natural log of $(1+FDI_{ckt}/ GDP_{ct}) *100$ for industry-country-year, where k, c, t represent industry, country, year, respectively.
Capex	Calculated as the natural log of (1+ capital $expenditures_{ckt}$ / GDP_{ct} (in millions)) *100, where k, c, t represent industry, country, year, respectively.
Compensation	Calculated as the natural log of (1+ total reported employee $compensation_{ckt}$ / GDP_{ct} (in millions)) *100, where k, c, t represent industry, country, year, respectively.
Market Entry	Entry of a material subsidiary into a market. Indicator variable equal to one in firm-country-years where a firm had no Exhibit 21 segment disclosures in country c in in year t-1 and at least one in year t, and zero otherwise.
Market Exit	Exit of a material subsidiary from a market. Indicator variable equal to one in firm-country-years where a firm had at least one Exhibit 21 segment disclosure in country c in year t-1 and none in year t.
CbCR	Country by Country Reporting. Indicator variable equal to on in observation country-years where a country has existing Country by Country reporting requirements and zero otherwise.
High Corruption	Indicator variable equal to one for country-years in the highest quartile of perceived corruption per Transparency International's CPI perception index and zero otherwise.
Tax Haven	Indicator variable equal to 1 for countries known to be tax havens and zero otherwise.
Unemployment	World bank total unemployment as a percentage of the total labor force, at time t and for country c.
Inflation	World Bank inflation based on consumer prices (annual %), at time t and for country c.

GDP growth	Annual GDP growth from the World Bank at time t and for country c.
Tax Rate	Statutory corporate income tax rate for country c, obtained from KPMG's Corporate Tax Rates table.
Size	Natural log of firm i's total assets (Compustat item AT) at year t.
Employees	Natural log of firm i's employees (Compustat item EMP) at year t.
Cash	Natural log of firm i's cash and short-term equivalents (Compustat item CHE) at year t.
Return on Assets	Net income divided by total assets (Compustat items: PI / AT) for firm i at year t.
Leverage	Total debt divided by total assets (Compustat items: DLTT / AT) for firm i at year t. Observations with missing debt are assumed to be zero.
Intangibles	Total intangible assets divided by total assets for firm i at year t. Observations with missing intangibles are assumed to be zero.
ETR	Total taxes divided by net income assets (Compustat items: TXT /PI) for firm i at year t.

APPENDIX D

TABLES

Sample Selection

Panel A: Foreign Direct Investment	*Observations:*	*Sample:*
Country industry year observations in BEA balance of payments and activities of multinationals data for sample period (2009 - 2019)	13,057	
Less: Observations in Finance and Depository Institutions industries	(638)	
Remaining Observations	**12,419**	
FDI		
Less: Firms missing requisite dependent variable		(5,027)
Less: Firms missing requisite control variables		(546)
Total FDI Sample		**6,846**
Capital Expenditures		
Less: Firms missing requisite dependent variable		(6,949)
Less: Firms missing requisite control variables		(419)
Total Capital Expenditures Sample		**5,051**
Employee Compensation		
Less: Firms missing requisite dependent variable		(5,682)
Less: Firms missing requisite control variables		(552)
Total Employee Compensation Sample		**6,185**

Panel B: Exhibit 21 Disclosures	*Observations:*	*Sample:*
Firm country year observations at the intersection of Exhibit 21 segment disclosures for firm-country combinations with at least one segment disclosure from 2009 - 2019.	477,372	
Less: Observations with a fiscal year end other than December &/or the only Exhibit 21 disclosure made was for a fiscal year end other than December.	(127,989)	
Less: Observations with a non-US exchange listing (Compustat item EXCHG that does not fall between 11 & 20)	(7,216)	
Less: Observations for firms in the financial services industry	(41,820)	
Remaining Observations	**300,347**	
Market Entry		
Less: Firms with at least one subsidiary in year t-1		(183,286)
Less: Firms missing requisite control variables		(26,329)
Total Market Entry Sample		**90,732**
Market Exit		
Less: Firms with no subsidiaries in year t-1		(117,061)
Less: Firms missing requisite control variables		(28,684)
Total Market Entry Sample		**154,602**

Table 1 describes the sample selection procedure. Panel A includes sample selection data from the Bureau of Economic Analysis' Balance of Payments data from 2009-2019. Panel B describes the sample selection procedures for the firm's 10-K Exhibit 21 disclosures.

Table 2

Descriptive Statistics

Panel A: Foreign Direct Investment

Variable	N	Mean	Standard Deviation	Min	Max
FDI	6,846	0.29	0.56	-0.04	3.68
Compensation	4,940	0.08	0.09	0.00	0.46
Capital Expenditures	4,084	0.02	0.06	0.00	0.38
PostReg	6,846	0.06	0.23	0.00	1.00
CbCR	6,846	0.20	0.40	0.00	1.00
Tax haven	6,846	0.14	0.35	0.00	1.00
High Corruption	6,846	0.27	0.45	0.00	1.00
Unemployment	6,846	7.14	4.85	0.21	28.47
Inflation	6,846	2.91	3.13	-1.31	16.52
GDP Growth	6,846	1.58	2.83	-6.56	9.03
Tax Rate	6,846	26.2	6.6	12.5	55.0

Panel B: Exhibit 21 - Market Entry

Variable	N	Mean	Standard Deviation	Min	Max
Market Entry	90,732	0.19	0.39	0.00	1.00
PostReg	90,732	0.04	0.20	0.00	1.00
CbCR	90,732	0.14	0.35	0.00	1.00
Tax Haven	90,732	0.14	0.35	0.00	1.00
High Corruption	90,732	0.09	0.28	0.00	1.00
Unemployment	90,732	7.10	4.40	0.66	24.79
Inflation	90,732	3.19	3.34	(1.14)	18.32
GDP Growth	90,732	1.51	3.13	(6.67)	10.10
Tax Rate	90,732	25.85	7.53	10.00	55.00
Size	90,732	7.61	2.10	1.92	11.94
Employees	90,732	1.42	2.03	(4.27)	5.30
Cash	90,732	5.26	1.98	(0.78)	9.77
ROA	90,732	0.01	0.22	(1.27)	0.35
Leverage	90,732	0.24	0.21	0.00	1.00
Intangibles	90,732	0.27	0.23	0.00	0.82

Panel C: Exhibit 21 - Market Exit

Variable	N	Mean	Standard Deviation	Min	Max
Market Exit	154,602	0.05	0.21	0.00	1.00
PostReg	154,602	0.07	0.25	0.00	1.00
CbCR	154,602	0.24	0.42	0.00	1.00
Tax Haven	154,602	0.14	0.34	0.00	1.00
High Corruption	154,602	0.09	0.28	0.00	1.00
Unemployment, total (% of total labor force)	154,602	6.93	4.31	0.69	24.89
Inflation, Consumer Prices (annual %)	154,602	2.84	2.91	(1.13)	15.68
GDP Growth (annual %)	154,602	1.63	2.89	(6.34)	9.40
Tax Rate	154,602	25.87	6.60	10.00	40.69
Size	154,602	8.14	1.79	3.18	12.05
Employees	154,602	2.13	1.72	(2.83)	5.75
Cash	154,602	5.77	1.80	0.63	10.17
ROA	154,602	0.04	0.14	(0.68)	0.33
Leverage	154,602	0.26	0.21	0.00	1.07
Intangibles	154,602	0.29	0.22	0.00	0.81

This table reports summary statistics for the variables used in the multivariate analysis. Panel A presents the sample for foreign direct investment, capital expenditure, and employee compensation, as obtained from the BEA balance of payments and activities of multinationals data. Panels B and C represent the market entry and market exit sample from Exhibit 21 disclosures.
Refer to Appendix 3 for detailed variable definitions.

Table 3

Correlation Matrix

Panel A: Foreign Direct Investment

	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	FDI	1.00	0.35	0.63	0.08	0.10	0.01	-0.14	-0.07	-0.14	-0.01	-0.06
2.	Capital Expenditures	0.35	1.00	0.36	0.01	0.08	-0.07	-0.17	-0.08	-0.19	0.03	-0.09
3.	Compensation	0.63	0.36	1.00	0.10	0.09	-0.11	-0.17	-0.07	-0.16	-0.03	0.13
4.	PostReg	0.08	0.01	0.10	1.00	0.42	-0.08	-0.04	0.01	-0.09	0.02	-0.02
5.	CbCR	0.10	0.08	0.09	0.42	1.00	-0.08	-0.09	-0.02	-0.16	0.09	-0.05
6.	Tax Haven	0.01	-0.07	-0.11	-0.08	-0.08	1.00	-0.14	-0.16	-0.04	0.02	-0.31
7.	High Corruption	-0.14	-0.17	-0.17	-0.04	-0.09	-0.14	1.00	-0.17	0.48	0.20	0.14
8.	Unemployment	-0.07	-0.08	-0.07	0.01	-0.02	-0.16	-0.17	1.00	0.04	-0.25	0.06
9.	Inflation	-0.14	-0.19	-0.16	-0.09	-0.16	-0.04	0.48	0.04	1.00	0.07	0.12
10.	GDP Growth	-0.01	0.03	-0.03	0.02	0.09	0.02	0.20	-0.25	0.07	1.00	-0.12
11.	Tax Rate	-0.06	-0.09	0.13	-0.02	-0.05	-0.31	0.14	0.06	0.12	-0.12	1.00

Panel B: Market Entry

		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(25)
12.	Market Entry	1.00	0.04	0.08	0.39	-0.01	0.00	0.00	0.01	-0.03	0.03	0.08	-0.02
13.	PostReg	0.04	1.00	0.42	-0.03	-0.01	0.02	0.00	0.01	-0.04	0.04	0.01	-0.01
14.	CbCR.	0.08	0.42	1.00	0.00	-0.04	0.03	0.00	0.01	-0.07	0.09	0.03	-0.09
15.	Tax Haven	0.39	-0.03	0.00	1.00	-0.06	0.00	-0.01	0.00	-0.02	0.01	0.03	-0.07
16.	High Corruption	-0.01	-0.01	-0.04	-0.06	1.00	0.13	0.12	0.10	0.06	0.04	0.01	0.45
17.	Size	0.00	0.02	0.03	0.00	0.13	1.00	0.85	0.81	0.46	0.31	0.25	0.11
18.	Employees	0.00	0.00	0.00	-0.01	0.12	0.85	1.00	0.67	0.49	0.25	0.26	0.11
19.	Cash	0.01	0.01	0.01	0.00	0.10	0.81	0.67	1.00	0.38	0.10	0.04	0.08
20.	ROA	-0.03	-0.04	-0.07	-0.02	0.06	0.46	0.49	0.38	1.00	0.03	0.12	0.09
21.	Leverage	0.03	0.04	0.09	0.01	0.04	0.31	0.25	0.10	0.03	1.00	0.25	0.02
22.	Intangibles	0.08	0.01	0.03	0.03	0.01	0.25	0.26	0.04	0.12	0.25	1.00	0.00
23.	ETR	-0.04	-0.01	-0.02	-0.01	0.02	0.10	0.11	0.07	0.11	0.03	0.04	0.01
24.	Unemployment	-0.03	-0.02	-0.10	-0.06	-0.13	0.04	0.04	0.03	0.03	0.02	0.03	0.03
25.	Inflation	-0.02	-0.01	-0.09	-0.07	0.45	0.11	0.11	0.08	0.09	0.02	0.00	1.00
26.	GDP Growth	0.04	-0.02	0.07	0.03	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.09
27.	Tax Rate	0.00	-0.04	-0.03	-0.16	0.00	-0.05	-0.05	-0.04	0.00	-0.03	-0.02	0.06

Panel C: Market Exit

		(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
28.	Market Exit	1.00	-0.01	-0.02	-0.10	0.01	-0.06	-0.08	-0.05	-0.08	-0.01	-0.02
29.	PostReg	-0.01	1.00	0.43	-0.10	-0.03	0.02	0.00	0.00	-0.03	0.07	0.04
30.	CbCR	-0.02	0.43	1.00	-0.07	-0.05	0.04	-0.01	0.00	-0.04	0.12	0.08
31.	Tax Haven	-0.10	-0.10	-0.07	1.00	-0.13	0.01	0.00	0.01	0.00	0.01	0.00
32.	High Corruption	0.01	-0.03	-0.05	-0.13	1.00	0.08	0.08	0.05	0.03	0.03	-0.01
33.	Size	-0.06	0.02	0.04	0.01	0.08	1.00	0.83	0.82	0.34	0.25	0.27
34.	Employees	-0.08	0.00	-0.01	0.00	0.08	0.83	1.00	0.66	0.40	0.18	0.22
35.	Cash	-0.05	0.00	0.00	0.01	0.05	0.82	0.66	1.00	0.33	0.05	0.05
36	ROA	-0.08	-0.03	-0.04	0.00	0.03	0.34	0.40	0.33	1.00	-0.05	0.05
37	Leverage	-0.01	0.07	0.12	0.01	0.03	0.25	0.18	0.05	-0.05	1.00	0.25
38	Intangibles	-0.02	0.04	0.08	0.00	-0.01	0.27	0.22	0.05	0.05	0.25	1.00
39	ETR	-0.01	-0.03	-0.03	0.00	0.01	0.05	0.08	0.05	0.11	0.00	-0.01
40	Unemployment	0.01	-0.01	-0.11	-0.13	-0.13	0.04	0.05	0.04	0.03	0.01	0.02
41	Inflation	0.01	-0.02	-0.10	-0.14	0.42	0.07	0.08	0.05	0.04	0.00	-0.01
42	GDP Growth	-0.01	-0.03	0.06	0.05	-0.01	0.01	0.01	0.01	0.03	0.01	0.02
43	Tax Rate	0.00	-0.04	-0.03	-0.44	0.04	-0.06	-0.04	-0.04	0.01	-0.05	-0.03

Table 4

Difference-in-Differences Analysis of Country-Level Investment Activity

Panel A: Foreign Direct Investment Activity from the BEA

Dependent Variable:	***Foreign Direct Investment***			***Capital Expenditures***			***Employee Compensation***		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
PostReg	-0.001	-0.090*	0.000	-0.000	-0.011***	-0.001	-0.004***	-0.004	-0.001
	(0.962)	(0.054)	(0.956)	(0.789)	(0.001)	(0.135)	(0.006)	(0.532)	(0.137)
High Corruption	-0.009	-0.104***	0.003	-0.001	-0.006***	-0.000	-0.000	-0.028***	0.000
	(0.496)	(0.000)	(0.736)	(0.723)	(0.006)	(0.873)	(0.992)	(0.000)	(0.846)
CbCR	-0.023***	0.074***	0.002	0.002	0.008**	-0.000	-0.007***	0.008**	-0.003**
	(0.006)	(0.003)	(0.586)	(0.184)	(0.012)	(0.645)	(0.002)	(0.025)	(0.026)
Tax Haven		0.434***			0.006**			0.030***	
		(0.000)			(0.048)			(0.000)	
Unemployment	-0.004***	-0.009***	-0.002*	-0.000	-0.001***	0.000	-0.000	-0.002***	-0.000
	(0.001)	(0.000)	(0.060)	(0.161)	(0.000)	(0.713)	(0.217)	(0.000)	(0.261)
Inflation	-0.001	-0.010***	-0.003**	-0.001*	-0.001***	-0.000	-0.001***	-0.002***	-0.001***
	(0.530)	(0.002)	(0.011)	(0.062)	(0.000)	(0.116)	(0.006)	(0.000)	(0.000)
GDP Growth	0.001	-0.017***	0.002	0.001*	0.000	0.001***	-0.000	-0.002***	0.000
	(0.600)	(0.000)	(0.266)	(0.080)	(0.555)	(0.001)	(0.244)	(0.003)	(0.668)
Tax Rate	0.001	-0.006***	-0.001*	-0.000	-0.001***	0.000	-0.000	-0.001***	-0.000
	(0.319)	(0.000)	(0.060)	(0.171)	(0.000)	(0.220)	(0.234)	(0.000)	(0.238)
Constant	0.310***	0.536***	0.334***	0.032***	0.045***	0.020***	0.081***	0.113***	0.080***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	6,846	6,846	6,823	5,051	5,051	5,014	6,185	6,185	6,171
Adjusted R-squared	0.298	0.321	0.944	0.139	0.144	0.855	0.249	0.289	0.950
Cluster:	Year	Year	Year	Year	Year	Year	Year	Year	Year
Fixed Effects	Year & Country	Year & Industry	Industry * Country	Year & Country	Year & Industry	Industry * Country	Year & Country	Year & Industry	Industry * Country

Panel B: Market Entry and Exit from Exhibit 21 Disclosures

Test Variables	***Market Entry***			***Market Exit***		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
PostReg	**0.005**	**0.008**	**0.029****	**-0.003**	**-0.006**	**-0.002**
	(0.254)	**(0.236)**	**(0.025)**	**(0.375)**	**(0.170)**	**(0.438)**
CbCR	0.001	0.028***	0.058***	-0.005	-0.014***	-0.007**
	(0.906)	(0.010)	(0.000)	(0.269)	(0.000)	(0.031)
High Corruption	0.016	-0.016**	0.020	0.005	0.005*	0.002
	(0.201)	(0.028)	(0.138)	(0.221)	(0.089)	(0.582)
Tax Haven		0.007			0.003	
		(0.253)			(0.140)	
Unemployment	-0.003**	-0.001**	-0.001	0.001***	0.000***	0.000
	(0.046)	(0.011)	(0.733)	(0.003)	(0.004)	(0.572)
Inflation	-0.001	-0.000	-0.007***	0.001	0.001**	0.001
	(0.517)	(0.460)	(0.001)	(0.234)	(0.035)	(0.239)
GDP Growth	0.001*	0.002**	0.003**	-0.000	-0.000	-0.001**
	(0.066)	(0.013)	(0.041)	(0.808)	(0.756)	(0.025)
Tax Rate	0.001	0.001**	-0.003**	0.000	-0.000**	0.000
	(0.247)	(0.049)	(0.022)	(0.443)	(0.022)	(0.203)
Size	-0.015***	-0.016***	-0.014**	0.004**	0.002	0.001
	(0.000)	(0.009)	(0.024)	(0.035)	(0.395)	(0.770)
Employees	0.003	-0.001	0.002	-0.010***	-0.009***	-0.009***
	(0.494)	(0.737)	(0.547)	(0.000)	(0.000)	(0.000)
Cash	0.017***	0.017***	0.019***	-0.002	0.000	0.000
	(0.000)	(0.002)	(0.002)	(0.235)	(0.930)	(0.802)
ROA	-0.038**	-0.038**	-0.053***	-0.097***	-0.097***	-0.092***
	(0.012)	(0.016)	(0.003)	(0.000)	(0.000)	(0.000)
Leverage	0.029	0.030	0.035	0.001	-0.003	-0.001
	(0.463)	(0.451)	(0.366)	(0.946)	(0.779)	(0.922)
Intangibles	0.163***	0.164***	0.175***	-0.009	0.004	0.003
	(0.000)	(0.001)	(0.000)	(0.317)	(0.637)	(0.737)
ETR	-0.025**	-0.024**	-0.024**	-0.001	-0.000	-0.000
	(0.021)	(0.022)	(0.024)	(0.697)	(0.883)	(0.814)
Constant	0.162***	0.166***	0.234***	0.037***	0.057***	0.050***
	(0.000)	(0.000)	(0.000)	(0.008)	(0.000)	(0.007)
Observations	90,732	90,732	90,697	154,602	154,602	154,527
Adjusted R-squared	0.0270	0.0236	0.0231	0.0138	0.0142	0.0228
Cluster:	Year	Year	Year	Year	Year	Year
Fixed Effects	Year & Country	Year & Industry	Industry * Country	Year & Country	Year & Industry	Industry * Country

Table 4 presents the results of estimating the effect of UBO disclosure regulations on foreign investment activities. Panel A presents foreign direct investment and the activities of multinationals. The dependent variable foreign direct investment, calculated as the natural log of (1+FDI/GDP, t) *100, is shown in columns (1) through (3). Capital Expenditures is calculated as the natural log of (1+Capital Expenditures/GDP in millions, t) *100 and is shown in columns (4) through (6) Employee Compensation is calculated as (1+Employee Compensation/GDP in millions, t) *100 and is shown in columns (7) through (9). Panel B presents the likelihood to enter or exit a market in response to UBO

disclosure requirements. Enter market is an indicator variable equal to one in firm-country-years where a firm had no Exhibit 21 segment disclosures in a country in year t-1 and at least one in year t, and zero otherwise. Exit Market is an indicator variable equal to one in firm-country-years where a firm had at least one Exhibit 21 segment disclosure in year t-1 and none in year t. PostReg is an indicator variable equal to one for all observation years after UBO disclosure requirements are in force and zero otherwise. In each analysis, I winsorize all continuous variables to the first and ninety-ninth percentiles and cluster standard errors as defined in the table above. The symbols *, **, and *** denote significance at the 0.10, 0.05, and 0.01 p-value level, respectively. Please refer to Appendix 3 for control variable definitions.

Table 5

Difference-in-Differences Analysis of a Firm's Activity, Including Effects of High Corruption, Country by Country Reporting, and Tax Havens

Panel A: Foreign Direct Investment Activity from the BEA

Dependent Variable:	***Foreign Direct Investment***			***Capital Expenditures***			***Employee Compensation***		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
PostReg	**-0.030***	**-0.243*****	**-0.012**	**-0.002**	**-0.031*****	**-0.004****	**-0.012***	**-0.052*****	**-0.003**
	(0.077)	**(0.000)**	**(0.269)**	**(0.351)**	**(0.000)**	**(0.036)**	**(0.082)**	**(0.000)**	**(0.439)**
PostReg * High Corruption	**0.027****	**0.177*****	**0.017**	**0.000**	**0.016*****	**-0.002**	**-0.002**	**0.031*****	**-0.001**
	(0.048)	**(0.001)**	**(0.140)**	**(0.933)**	**(0.001)**	**(0.471)**	**(0.474)**	**(0.000)**	**(0.730)**
PostReg * CbCR	0.029**	0.153***	0.010*	0.002	0.018***	0.003*	0.009*	0.047***	0.002
	(0.034)	(0.000)	(0.070)	(0.401)	(0.002)	(0.076)	(0.074)	(0.001)	(0.457)
PostReg * Tax Haven	-0.014	-0.389***	-0.006	-0.000	0.009**	0.006*	0.051***	0.085***	0.017*
	(0.543)	(0.000)	(0.510)	(0.906)	(0.024)	(0.093)	(0.001)	(0.000)	(0.064)
Observations	6,846	6,846	6,823	5,051	5,051	5,014	6,185	6,185	6,171
Adjusted R-squared	0.298	0.322	0.944	0.139	0.144	0.855	0.249	0.291	0.950
Cluster:	Year	Year	Year	Year	Year	Year	Year	Year	Year
Fixed Effects	Year & Country	Year & Industry	Industry * Country	Year & Country	Year & Industry	Industry * Country	Year & Country	Year &Industry	Industry * Country

Panel B: Market Entry and Exit from Exhibit 21 Disclosures

Test Variables	***Market Entry***			***Market Exit***		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
PostReg	**-0.009**	**-0.017**	**0.076**	**-0.003**	**-0.004**	**-0.013**
	(0.891)	**(0.770)**	**(0.126)**	**(0.862)**	**(0.819)**	**(0.262)**
PostReg * High Corruption	**-0.021**	**0.002**	**-0.012**	**0.010**	**0.008**	**0.021**
	(0.778)	**(0.978)**	**(0.849)**	**(0.441)**	**(0.573)**	**(0.125)**
PostReg * CbCR	0.020	0.032	-0.054	-0.001	-0.003	0.010
	(0.788)	(0.632)	(0.401)	(0.970)	(0.841)	(0.292)
PostReg * Tax Haven	-0.037	-0.052	-0.020	-0.004	0.014	0.008
	(0.291)	(0.108)	(0.117)	(0.750)	(0.155)	(0.374)
Observations	90,732	90,732	90,697	142,079	142,079	142,004
Adjusted R-squared	0.0270	0.0236	0.0232	0.0137	0.0144	0.0234
Cluster:	Year	Year	Year	Year	Year	Year
Fixed Effects	Year & Country	Year & Industry	Industry * Country	Year & Country	Year & Industry	Industry * Country

Table 5 presents the results of the difference-in-differences analysis of the effect of the UBO disclosure laws on foreign investment activities by U.S. multinationals operating in countries with high levels of perceived corruption, with existing country-by-country reporting requirements or known tax havens. Panel A presents foreign direct investment and the activities of multinationals. The dependent variable foreign direct investment, calculated as the natural log of (1+FDI/GDP, t) *100, is shown in columns (1) through (3). Capital Expenditures is calculated as the natural log of (1+Capital Expenditures/GDP in millions, t) *100 and is shown in columns (4) through (6) Employee Compensation is calculated as (1+Employee Compensation/GDP in millions, t) *100 and is shown in columns (7) through (9). Panel B presents the likelihood to enter or exit a market in response to UBO disclosure requirements. Enter market is an indicator variable equal to one in firm-country-years where a firm had no Exhibit 21 segment disclosures in a country in year t-1 and at least one in year t, and zero otherwise. Exit Market is an indicator variable equal to one in firm-country-years where a firm had at least one Exhibit 21 segment disclosure in year t-1 and none in year t. PostReg is an indicator variable equal to one for all observation years after UBO disclosure requirements are in force and zero otherwise. High Corrupt is an indicator variable equal to one for country-years in the highest quartile of perceived corruption and zero otherwise. Country by Country (CbCR) reporting requirements is an indicator variable equal to one in observation years where a country has existing CbCR reporting requirements and zero otherwise. Haven is an indicator variable equal to 1 for known tax havens and zero otherwise. In each analysis, I winsorize all continuous variables to the first and ninety-ninth percentiles and cluster standard errors as defined in the table above. The symbols *, **, and *** denote significance at the 0.10, 0.05, and 0.01 p-value level, respectively.

Table 6

Analysis of Industries with High Levels of FCPA Enforcement

Dependent Variable:	FDI		New Market Entry		Exit from Market	
	High Enforcement Industries	*Other Industries*	*High Enforcement Industries*	*Other Industries*	*High Enforcement Industries*	*Other Industries*
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
PostReg	**0.000**	**-0.012**	**0.104**	**0.070****	**-0.008**	**-0.013**
	(0.992)	**(0.332)**	**(0.516)**	**(0.014)**	**(0.637)**	**(0.322)**
PostReg * High Corruption	**-0.006**	**0.020**	**-0.104**	**0.011**	**0.031**	**0.018**
	(0.826)	**(0.195)**	**(0.655)**	**(0.813)**	**(0.409)**	**(0.141)**
PostReg * CbCR	0.054***	0.003	-0.104	-0.045	-0.006	0.011
	(0.004)	(0.663)	(0.491)	(0.301)	(0.747)	(0.309)
PostReg * Tax Haven	0.001	-0.009	0.005	-0.026***	-0.004	0.009
	(0.980)	(0.489)	(0.957)	(0.009)	(0.808)	(0.330)
X^2 test of differences: PostReg	***0.26***		***0.07***		***0.07***	
Probability > X^2: PostReg	***0.612***		***0.795***		***0.798***	
X^2 test of differences: PostReg * High Corruption	***0.59***		***0.29***		***0.15***	
Probability > X^2: PostReg * High Corruption	***0.444***		***0.591***		***0.697***	
Observations	917	5,906	10,123	80,574	15,581	126,423
Adjusted R-squared	0.873	0.948	0.0319	0.0236	0.0363	0.0224
Cluster:	Year	Year	Year	Year	Year	Year
Fixed Effects	Industry * Country	Industry * Country	Industry * Country	Industry * Country	Industry * Country	Industry * Country

Table 6 presents the results of the difference-in-differences analysis of the effect of the UBO disclosure laws on foreign investment activities for firms in industries with high FCPA enforcement. Foreign direct investment (FDI) is calculated as the natural log of (1+FDI/GDP, t) *100. Enter market is an indicator variable equal to one in firm-country-years where a firm had no Exhibit 21 segment disclosures in a country in year t-1 and at least one in year t, and zero otherwise. Exit Market is an indicator variable equal to one in firm-country-years where a firm had at least one Exhibit 21 segment disclosure in year t-1 and none in year t. PostReg is an indicator variable equal to one for all observation years after UBO disclosure requirements are in force and zero otherwise. High Corrupt is an indicator variable equal to one for country-years in the highest quartile of perceived corruption and zero otherwise. Country by Country (CbCR) reporting requirements is an indicator variable equal to one in observation years where a country has existing CbCR reporting requirements and zero otherwise. Haven is an indicator variable equal

to one for known tax havens and zero otherwise. I winsorize all continuous variables to the first and ninety-ninth percentiles and cluster standard errors as defined in the table above. The symbols *, **, and *** denote significance at the 0.10, 0.05, and 0.01 p-value level, respectively. Please refer to Appendix 3 for control variable definitions.

Table 7

Cross-Country Analysis of Foreign Direct Investment

	Overall	*US*	*UK*	*US/UK*	*Other (non-US/UK)*	*OECD*	*Other (non-OECD)*
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(4)**	**(5)**
PostReg (Destination)	**-0.027***	**-0.114**	**-0.227****	**-0.168****	**-0.026***	**-0.084**	**-0.017****
	(0.064)	**(0.148)**	**(0.022)**	**(0.040)**	**(0.057)**	**(0.104)**	**(0.035)**
PostReg * High Corruption (dest)	**0.010**	**0.133**	**0.233****	**0.167****	**0.007**	**0.105****	**0.001**
	(0.250)	**(0.181)**	**(0.022)**	**(0.041)**	**(0.343)**	**(0.020)**	**(0.791)**
PostReg * CbCR Req. (dest)	0.019	0.103*	0.188**	0.139**	0.017	0.063	0.012
	(0.121)	(0.059)	(0.016)	(0.023)	(0.134)	(0.195)	(0.119)
PostReg * Tax Haven (dest)	0.092***	0.725***	0.193**	0.454***	0.090***	0.504***	0.039***
	(0.000)	(0.000)	(0.012)	(0.000)	(0.000)	(0.000)	(0.005)
High Corruption Country (dest)	-0.009**	-0.104*	-0.066	-0.065	-0.008**	-0.044**	-0.002
	(0.037)	(0.059)	(0.189)	(0.215)	(0.041)	(0.026)	(0.440)
CbCR reporting req. (dest)	0.000	0.011	0.027	0.010	0.001	-0.020*	0.002
	(0.982)	(0.702)	(0.600)	(0.774)	(0.845)	(0.053)	(0.566)
Constant	0.086***	1.041***	0.760***	0.604	0.099***	0.143***	0.099***
	(0.001)	(0.000)	(0.000)	(0.167)	(0.000)	(0.002)	(0.000)
X^2 test of differences: PostReg				***4.21***		***2.70***	
Probability > X^2: PostReg				***0.040***		***0.101***	
X^2 test of differences: PostReg * High Corruption (dest)				***5.98***		***9.18***	
Probability > X^2: PostReg * High Corruption (dest)				***0.0145***		***0.02***	
Observations	115,542	982	984	1,966	113,576	42,524	73,018
Adjusted R-squared	0.113	0.848	0.827	0.641	0.106	0.258	0.0642
Cluster:	Year	Year	Year	Year	Year	Year	Year
Fixed Effects	Destination Country &	Destination Country &	Destination Country &	Destination Country &	Destination Country &	Destination Country &	Destination Country &

	Year	Year	Year	Year	Year	Year	Year

Table 7 presents the results of the difference-in-differences analysis of the effect of the UBO disclosure laws on foreign investment activities for Foreign Direct Investment country pairs (investing country and country invested in) using direct investment data from the Inbound Direct Investment data from the International Monetary Fund Coordinated Direct Investment Surveys. Columns (1) and (2) present Foreign direct investment (FDI) is calculated as the natural log of (1+FDI/GDPc, t) *100. High Corruption is an indicator variable equal to one for country-years in the highest quartile of perceived corruption and zero otherwise. Country by Country (CbCR) reporting requirements is an indicator variable equal to one in observation years where a country has existing CbCR reporting requirements and zero otherwise. Haven is an indicator variable equal to one for known tax havens and zero otherwise. I winsorize all continuous variables to the first and ninety-ninth percentiles and cluster standard errors as defined in the table above. The symbols *, **, and *** denote significance at the 0.10, 0.05, and 0.01 p-value level, respectively. Please refer to Appendix 3 for control variable definitions.

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