Measuring Reputational Harm in Money Laundering Cases

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Abstract

Most countries have adopted anti-money laundering laws during the last twenty years, but growing evidence shows widespread lapses in enforcement. Accordingly, scholars seek to understand what factors lead states to enforce these laws. One argument is that countries enforce these laws to protect against the reputational harm that involvement with money laundering could cause. Specifically, scholars argue that both states and financial institutions can experience reputational harm from association with money laundering, leading to decreased foreign investment as actors move their funds to safer jurisdictions. Although this theory is widely referenced, the literature lacks a convincing test of it. To test this, I have collected a new dataset of money laundering cases based on international news coverage. At the state level, I use the *synthetic control* method to test for changes in countries' foreign portfolio investment following news of major money laundering cases in Switzerland, Panama, and Denmark. For financial institutions, I use the *event study* method to test whether the price of a financial institution's security decreases following news of a money laundering investigation. For both states and financial institutions, I find no evidence that news of a money laundering case causes reputational harm. Thus, my findings call into question claims that actors enforce anti-money laundering laws to protect their reputations.

1 Introduction

Money laundering can cause severe harm to society through "predicate crimes," which generate funds for laundering. In response, the Financial Action Task Force (FATF) – an international organization dedicated to coordinating the response to money laundering – has

released a series of anti-money laundering standards designed to catch criminals and prevent their access to the international financial system. Although most countries have adopted the FATF's standards over the last twenty years, growing evidence from data leaks, field experiments,[1] and money laundering cases shows that in practice, many countries fail to uphold these standards. Accordingly, scholars seek to understand what factors lead countries to enforce these laws.

One explanation put forth by the literature is that states enforce anti-money laundering laws because they wish to safeguard against the reputational harm money laundering can cause. Once a country becomes known for money laundering, the argument holds, transnational economic actors (namely financial institutions and investors) will no longer want to do business in that country, leading to a decrease in foreign investment. This argument is particularly referenced in the context of developed countries, as scholars argue they have a powerful incentive to enforce anti-money laundering laws given the importance they place on protecting their well-developed financial sectors.[2] Scholars also argue that financial institutions themselves run the risk of reputational harm as a result of money laundering, since economic actors will cut off business with financial institutions that are perceived as risky.[3]

Though this theory is popular in the literature, a lack of reliable data about money laundering has hindered efforts to test it empirically. Because money laundering is a clandestine activity, it is incredibly difficult to estimate how much money is actually laundered. Indeed, there are no credible estimates of money laundering,[4] cross-national statistics about money laundering do not provide a viable means of comparison,[5] and FATF peer review reports do not provide reliable information about a country's enforcement of anti-money laundering laws or its overall risk due to data and methodological limitations.[6] Thus, I argue that the

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[1] Findley, Nielson, and Sharman 2014.

[2] Verdugo Yepes 2011.

[3] Unger et al. 2006; Morse 2019.

[4] Reuter 2013.

[5] Takats 2011.

[6] Levi, Reuter, and Halliday (2018) and Levi, Halliday, and Reuter (2014) detail shortcomings in the mutual evaluation process. Ferwerda and Reuter (2019) detail issues with national risk assessments. Pol (2018) discuss shortcomings of FATF measures of "effectiveness." See also Verdugo Yepes (2011) and Willebois

only reliable signal of a country or financial institution's money laundering risk is news of a major money laundering case.

Accordingly, I have collected a new dataset of money laundering cases based on articles in the *New York Times* and *The Financial Times* between 2001-2019. The data provide insight for the first time into which countries carry out the most public money laundering investigations and which are home to the most publicly investigated intermediaries (i.e., private sector actors like financial institutions charged with screening their customers for money laundering risk). The data show that the United States and (to a lesser extent) the United Kingdom play an outsized role on both scores, with the United States responsible for nearly half of all money laundering investigations worldwide. The data offer the chance to test whether financial institutions involved in these investigations experience reputational harm as a result.

I use the *event study* methodology to measure whether financial institutions with securities listed on one of three major exchanges experienced a decrease in security prices following news of the financial institution's involvement in a money laundering investigation. I also test for reputational costs at the state level for Switzerland, Panama, and Denmark following news of major money laundering cases that revealed significant regulatory failures. Using the *synthetic control* method,[7] I measure whether these countries experienced a decrease in foreign portfolio investment following news of these cases.

For both states and financial institutions, I find no evidence that news of money laundering cases causes reputational harm. For states, the synthetic estimate and actual foreign portfolio investment did not differ significantly following news of a major money laundering case. For financial institutions, I also do not find evidence that the actual security returns differed significantly from the predicted returns following news of a financial institution's involvement in a money laundering investigation. These findings suggest that concern over

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et al. (2011) for a discussion of concerns with how well the overall system functions.

[7]This method was developed by Abadie and Gardeazabal (2003) and Abadie, Diamond, and Hainmueller (2010).

reputational harm may not act as an incentive to enforce anti-money laundering laws, which, in turn, suggests that achieving widespread enforcement of these laws is likely more difficult than previously believed.

The rest of this paper is divided into four main parts. First, I examine theories about how money laundering can cause financial harm, considering each claim in light of the relevant empirical evidence. I focus my attention on the claim that money laundering can cause reputational harm for states and financial institutions while paying special attention to the series of events that must occur for these actors to experience reputation costs. Next, I detail the research design, focusing on my operationalization of the independent variable (exposure to the reputational risk of money laundering) and outline the method and results for my analysis at the level of states and financial institutions. I then discuss these findings, including implications for a broader understanding of international efforts to combat money laundering, and offer a few concluding thoughts.

2 Financial Harm Caused by Money Laundering

Theories about the ability of money laundering to cause financial harm are widely referenced in the literature. However, most of these claims have not been subject to empirical testing because of a major hurdle: a lack of reliable data about money laundering. Thus, many of these discussions center on a theoretical analysis of money laundering's potential to cause economic harm through a variety of channels. I build on this scholarship by seeking to assess these arguments within the context of the current empirical evidence.

2.1 Economic Distortions and Poor Economic Growth

First, scholars contend that money laundering distorts the productive use of capital, which harms economic growth.[8] Unger et al. (2006, p. 86) writes,

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[8]Quirk 1997; Masciandaro, Takats, and Unger 2007.

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Money laundering has a significant negative impact on growth rates. Since in the context of this activity, funds are redirected from sound to risky ventures, from the productive to sterile investments and crime and corruption are facilitated, economic growth can suffer. When a particular venture or industry is no longer appealing to launderers, they tend to simply abandon it, potentially causing the collapse of these sectors and serious damage to the respective economies.

This argument is premised on the fact that because criminals wish to obscure the origins of illegally-obtained funds, they value maintaining secrecy more than legal customers. As such, they may be willing to pay above-market prices for assets if purchasing these assets allows them to maintain a higher level of secrecy than would be available for other purchases. On a large scale, this pattern of behavior can lead money launderers to drive up prices in certain sectors.

Turning to the empirical evidence, case studies show that money laundering has, indeed, artificially driven up prices in certain sectors.[9] This phenomenon is most closely associated with the real estate sector, since the United States and a number of other wealthy countries have laws that require less scrutiny of the identity of a person purchasing real estate than other types of assets (e.g., stocks, bonds, etc.).[10] These lax laws are credited with driving a surge in purchases of high end properties in several major international cities, including London, New York City, Miami, and Vancouver.[11]

Although artificially high prices are bad for society, it is less clear that price distortions – and the inefficient use of capital caused by money laundering more broadly – harm national economic growth. Specifically, this claim rests on the assumption that the capital which is ultimately laundered would have been used more productively in the absence of money laundering. However, a major difficulty for attempts to prove this claim is that it is unclear what the substitutes are for money that goes to crime and is ultimately laundered; thus,

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[9]Unger et al. 2006.

[10]In the United States, the real estate sector lobbied for and obtained an exemption in the 2001 Patriot Act that excluded realtors from performing customer due diligence. Unger et al. (2006) also documents price distortions driven by money laundering in the Dutch real estate market.

[11]Story and Saul 2015; Konotey-Ahulu 2020; Osborne 2020; Stokel-Walker 2019; Nehamas and Rodriguez 2018; Levinson-King 2019; Hoekstra 2019.

it is difficult to assess whether these alternative uses would be better for the economy as a whole. Further, laundered money can also provide some economic benefits for countries in the form of increased revenue for businesses and increased tax revenue. Thus, it is unclear whether price distortions created by money laundering harm economic growth.

2.2   Financial Instability

Second, scholars contend that money laundering can create national financial instability.[12] The logic behind this claim is similar to the last: because criminals have different objectives than legitimate actors – namely to launder illegally-obtained funds while avoiding detection rather than to (solely) maximize profits – this may lead them to behave in ways that increase volatility in the market. For example, a criminal might rapidly withdraw funds from a given investment because of the introduction of a new law that threatens to expose her identity.

Turning once again to the empirical evidence, there is little that suggests money launderers behave differently than legal customers by withdrawing funds at will. In fact, money launderers are often subject to the same constraints as legal customers, such as the time it takes to sell real estate holdings. Financial instability at the national level would also require that this individual behavior was widespread enough to create a macroeconomic effect, something that seems unlikely given the current evidence. Indeed, the only documented cases in which money laundering was linked to financial instability involve Latvia in the 1990s and the Dominican Republic in 2002, and in both cases, it is likely that the underlying crime created instability rather than money laundering itself.[13]

2.3   Criminal Contagion

Third, scholars contend that countries exposed to money laundering run the risk of criminal contagion: because money laundering in the financial sector introduces an element of law

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[12]Quirk 1997; Unger et al. 2006.
[13]Reuter 2013.

breaking, actors in the financial sector will be more likely to break other laws including bribing government officials, which will increase corruption.[14] Some scholars describe this process as driven by the fact that "criminal money attracts crime," arguing that criminals will become familiar with a country as they launder money and will proceed to develop new criminal networks there.[15] Thus, the logic goes, the presence of money laundering opens the door to many other potential problems that can severely harm a state's economic performance.

Although it is plausible that individuals involved in money laundering might be more likely to offer a bribe to a government official or break another law, I do not yet have evidence that this has happened on a large scale. Here, it is worth considering that most large-scale money laundering cases involving banks have played out in ways that are more innocuous than some might imagine; for example, bank officials may turn a "blind eye" by failing to perform customer due diligence. Indeed, my new data show that most documented cases of money laundering involving banks have occurred in wealthy countries like the United States, United Kingdom, and Switzerland, all of which have low levels of corruption and generally low levels of crime in the financial sector. Thus, the evidence suggests that the presence of money laundering does not necessarily increase criminality in the private sector and corruption in the public sector.

2.4   Reputational Harm

I now turn to the last argument: states that become known for money laundering will suffer harm to their reputations that will lead to a loss of foreign investment. To test this, prior studies have examined changes in foreign investment for countries placed on an FATF noncompliance list and have reached mixed conclusions.[16] However, the process through which the FATF placed countries on these lists differs from an impartial assessment

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[14]Quirk (1997, pp. 8–9) writes, "[C]ontempt for the law is contaminating – breaking one law makes it easier to break others."

[15]Unger et al. 2006, p. 9.

[16]Schwarz 2011; Masciandaro 2004; Gnutzmann, McCarthy, and Unger 2010; Morse 2019.

of countries' money laundering risk.[17] Thus, it is unclear whether transnational economic actors respond to direct evidence of money laundering risk *itself* as opposed to the actions of the FATF. I seek to test this theory using a new measure of exposure to the reputational risk associated with money laundering: evidence of a major anti-money laundering failure. I discuss this choice in detail in the next section, but first, I briefly consider the theoretical arguments detailing how money laundering may cause reputational harm.

Theories of reputation costs in international relations start from the premise that states can gain more through cooperation than by acting alone. However, states run a risk by cooperating with others, since another state's defection from an agreement can leave the cheating state better off and the cooperative state worse off.[18] Because states coexist in a competitive environment, they may hesitate to enter into cooperative agreements as there is no third-party actor that can ensure states will abide by their international commitments. Consequently, neoliberal institutionalists argue that states will rely on another state's reputation – its record of past behavior – to determine whether a state is a reliable partner for a cooperative agreement. Thus, a state's reputation for cooperation becomes a valuable asset, and the potential for long-term cooperation can create a "shadow of the future" that leads states to prioritize maintaining a good reputation over whatever short-term gains they might accrue by breaking an international commitment.[19]

Since these theories were first introduced in the 1980s, they have become extremely influential. Scholars of international law have primarily focused on reputation costs as an explanation for why states comply with international law,[20] while international relations scholars have explored ways that states' reputation concerns can influence international cooperation more broadly. Critics have also engaged with these ideas; in particular, realists argue that state power plays a key role in how reputation costs function by determining which issues

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[17]See Nershi (2021) for a discussion of the FATF blacklisting process.

[18]For example, if two states agree to a disarmament treaty but only one complies, the cooperative state is considerably less safe than before.

[19]Keohane 2005; Axelrod 1984.

[20]Brewster 2009.

are addressed through cooperative agreements,[21] the types of cooperative agreements that are formed,[22] and how politics within international organizations function.[23] Other critiques highlight the conceptual mismatch between some theoretical insights about reputation – many of which were initially developed through analysis of game theoretic frameworks like the Prisoner's dilemma – and the context in which states actually cooperate.[24]

Scholars have also identified a number of factors that may limit the ability of states to impose reputation costs on defecting states in practice. Specifically, this process requires that interested actors must (1) obtain relevant information about a country's compliance, (2) infer from this information that a country has not complied, and (3) take action that results in a cost for the targeted state. In practice, however, it is often difficult for states to obtain information about another state's compliance as this requires both effort (time, resources, etc.) and access (a state must agree to share information with another state). Consequently, neoliberal institutionalists argue that international institutions can help overcome this challenge by streamlining resources to gather information and gaining access to states through their status as a neutral third party.[25]

However, even when states obtain access to high quality information, they may struggle to interpret it. For example, it can be difficult to judge what constitutes noncompliance because states may behave ambiguously.[26] Though international institutions can once again help alleviate this burden by identifying instances of noncompliance for punishment by member states,[27] even this process can sometimes go awry.[28] Lastly, "regime complexity," or patterns of overlapping international commitments, can also complicate states' efforts to monitor and respond to instances of noncompliance, thereby diluting the power of reputation costs for

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[21]Drezner 2005; Simmons 2001.
[22]Krasner 1991.
[23]Steinberg 2002; Drezner 2008.
[24]Brewster 2009; Downs and Jones 2002.
[25]Keohane 2005.
[26]Simmons 1998.
[27]Garrett 1992.
[28]Nershi 2021.

any one issue.[29]

2.4.1 Reputational Harm for States

Returning to the anti-money laundering literature, scholars argue that evidence of money laundering will harm a state's reputation and lead transnational economic actors – who are concerned by the potential financial risk associated with money laundering – to move funds away from the involved country and toward others with safer regulatory environments.[30] Importantly, this theory depends on the fact that actors view the presence of money laundering cases within a country as evidence of the country's financial risk. Unger et al. (2006, p. 90) describes the process through which actors may aggregate risk from financial institutions to the country as a whole this away:

> The damaged integrity of the financial sector as a result of association with money laundering... can negatively impact foreign direct investment. Once a country's commercial and financial systems are perceived as being under the influence of criminal elements, this may compromise the jurisdictions' reputation and undermine investors' trust."[31]

I predict that states are unlikely to experience reputation costs from money laundering because the act of gathering information about money laundering risk, interpreting it, and acting on it is very difficult. Further, it is not clear that economic actors view money laundering as something that endangers their investments.

2.4.2 Reputational Harm for Financial Institutions

Scholars argue that financial institutions also experience reputational harm as a result of involvement in money laundering.[32] Reputational harm for financial institutions differs from

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[29]Drezner 2009.

[30]Morse 2019; Quirk 1997; Unger et al. 2006; Sharman 2009.

[31]Unger et al. 2006, p. 90.

[32]For example, Unger et al. (2006, p. 91) writes, "Once a financial institution becomes involved in money laundering operations and is subsequently detected, it will lose credibility and customer confidence. Due to the perceived risk of fraud and corruption associated with money laundering, economic agents will choose to avoid such institutions and conduct their business elsewhere." See also Morse (2019).

Figure 1: Timeline of Danske Bank Security Prices

Notes: This graph shows Danske Bank's security prices during the course of U.S. and Danish investigations of the bank for anti-money laundering violations.

harm for states because financial institutions themselves are directly implicated in money laundering investigations. However, because these investigations are ongoing, there is typically uncertainty about a financial institution's guilt, since additional evidence could incriminate or exculpate it. Regardless, news of a money laundering investigation introduces uncertainty, and if investors are concerned about potential money laundering risk, I should expect a market reaction to the news.

Evidence shows that financial institutions sometimes experience reputational harm following news of a money laundering investigation, though the record is mixed. Danske Bank, for example, experienced a rapid decrease in stock prices during a six-month period in which Danish authorities reprimanded the bank, U.S. authorities launched a criminal investigation, and Estonian authorities arrested several of the bank's employees at its Estonian branch (Figure 1).[33] However, the bank's fall from grace may be the exception rather than the norm, as

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[33]Milne 2018.

many financial institutions emerge from investigations seemingly unscathed.

Indeed, the Department of Justice, the main actor bringing money laundering cases against banks internationally, has been criticized for dealing too leniently with big banks accused of money laundering violations. U.S. prosecutors have chosen not to charge individual bank employees with wrongdoing in these cases (even though oversight lapses are sometimes severe), and instead issue fines against the banks, which have sometimes been perceived as light relative to the crimes committed. For example, HSBC received a fine equal to one week of the bank's revenue ($1.9 billion) to settle a case in which the bank routinely violated sanctions and allowed at least $880 million from Mexican drug cartels to pass through the bank;[34] in response, many commentators declared the bank had become "too big to prosecute" for money laundering violations.[35] Further, the high number of repeat offenders – banks that are involved in more than one criminal case brought by the Department of Justice – suggests that the consequences of money laundering cases for banks' reputations may not be as severe as previously argued.

3 Research Design

3.1 Measuring Money Laundering Risk

Operationalizing the reputational risk of money laundering presents a challenge because there is a lack of reliable data about money laundering. For one, previous attempts to estimate money laundering have been subject to serious methodological flaws that render them impractical for most applications;[36] this makes it impossible to compare states by the amount of money laundered and greatly complicates efforts to measure how well states enforce anti-money laundering laws.[37] Other types of money laundering statistics – namely

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[34]Teodorczuk 2018.

[35]Chang 2012; Greenwald 2012; Taibbi 2013; Morgenson 2016; Ross, Mosk, and Boettcher 2012.

[36]Reuter 2013; Levi, Reuter, and Halliday 2018.

[37]In **??**, I provide a discussion of some of the shortcomings of approaches to estimating money laundering.

the number of suspicious activity reports from banks – also provide a poor cross-national metric because reporting guidelines vary across countries.[38] Meanwhile, statistics that *are* standardized across countries (e.g., currency transaction reports) do not offer a good way to compare states' money laundering risk.

Prior studies seeking to test this theory have operationalized exposure to the reputational risk of money laundering by considering states placed on FATF noncompliance lists.[39] FATF noncompliance lists are controversial, however, as politics played a role in the review process and many developing states came to view the process as non-transparent, overly punitive, and part of an effort to privilege the interests of developed countries over those of developing ones.[40] Thus, FATF noncompliance lists do not present a neutral assessment of countries' money laundering risk that can be used to study the reputational harm associated with the act of money laundering itself (and independent of the FATF's political dynamics).

Accordingly, I argue the best signal of a country's money laundering risk is evidence of a major anti-money laundering failure. I identify several cases that exposed major failings at the national level and use these to test for reputational harm among states. Importantly, news coverage provides a "shock" of information about a significant anti-money laundering failure, which allows us to measure changes in foreign investment in response to these events. I also test whether financial institutions experience decreased security returns following news of their involvement in a money laundering case.

3.2   National Financial Harm

I focus on three major money laundering cases to test for reputational harm, which I chose on the basis of two factors: (1) the scale of the money laundered, and (2) the amount of international attention each case attracted. I provide a brief overview of each case below.

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[38]Takats 2011.

[39]Schwarz 2011; Masciandaro 2004; Gnutzmann, McCarthy, and Unger 2010; Morse 2019.

[40]See[41].

3.2.1 Swiss Leaks

In February 2015, the International Consortium of Investigative Journalists published a series of stories documenting widespread anti-money laundering lapses by HSBC Private Bank (Suisse) in Geneva, Switzerland. The now publicly-available data revealed that bankers failed to disclose tax evasion and other illegal sources of their customers' wealth as required by law; not only that, but bankers routinely advised their customers on how to avoid anti-money laundering laws in order to move money from their home countries to the Swiss bank.[42] The scale of these operations was enormous – accounting for a suspected $100 billion in suspicious money, much of it tied to tax evasion. These revelations sparked international outrage and spurred governments around the world to open criminal investigations. Although most of these investigations were targeted against individual citizens for tax evasion, the French government opened a case against the bank that was ultimately settled for 300 million.[43]

Although Switzerland has long maintained a reputation for banking secrecy (and has experienced money laundering scandals in the past), this case was unique because it clearly and concretely showed the breadth of the bank's disregard for customer due diligence laws; further, these violations were not detected or addressed by Swiss authorities. Thus, this case could influence international perceptions of Switzerland given the scale of the major failure it showed.

3.2.2 Panama Papers

Second, I examine Panama's economic outcomes in the wake of the Panama Papers. This leak of 11.5 million financial documents from a Panamanian law firm, Mossack Fonseca, is the biggest data leak in history; it revealed that the law firm had obfuscated customer due diligence laws and conducted business with tax evaders, terrorist financiers, members of organized crime groups, and corrupt public officials from around the world. Like the

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[42]Fitzgibbon 2015.
[43]Reuters Staff 2017.

Swiss Leaks, the Panama Papers sparked international outrage, which ultimately led to the ousting of Iceland's prime minister, Sigmundur Gunnlaugsson, in response to his offshore financial dealings exposed in the leak.[44] Although documents from the leak revealed failures by intermediaries from all over the world, this leak (and the bad press associated with it) is most closely tied to its namesake country. As such, it presents an opportunity to test for reputational harm.

3.2.3 Danske Bank Scandal

Third and last, I consider the aftermath of the Danske Bank money laundering scandal. This case centered on Danske Bank, Denmark's largest bank, which failed to apply proper anti-money laundering controls and oversight of its branch in Estonia, allowing an estimated 200 billion of dirty cash (most of it from Russian organized crime groups) to pass through the bank. During an eight-year period, top officials at the bank ignored warnings from regulators and an internal whistle-blower, with the bank only responding to the crisis once pressure from the media made it impossible to ignore. In response, both Denmark and the United States opened criminal investigations into the bank's conduct.[45]

The Danske Bank case holds the distinction of being the biggest money laundering case in history in terms of funds laundered. This case was also unusual because it featured a major failing by a bank from a country with a reputation for a strong regulatory environment. Accordingly, these events may have led some transnational economic actors to revise their opinions of the money laundering risk present in Denmark.

3.2.4 Synthetic Control Method

To measure the impact of major money laundering cases on foreign investment, I use the synthetic control method developed by Abadie, Diamond, and Hainmueller (2015). This method offers a way to examine treatment effects when there are a small number of treated

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[44]Fitzgibbon and Hudson 2021.
[45]Milne 2018.

units. This method also offers a good approach when treated units are highly idiosyncratic, so that no single control unit can serve as a good counterfactual. Both these facts are true of my analysis, as I consider a treatment effect for just three countries; further, because they are countries, no other unit can serve as a reliable counterfactual. The synthetic control method addresses this problem by creating a "synthetic" control unit using a weighted average of the potential control units; this estimate is based on key characteristics of the treated unit during the period before treatment.

For simplicity, I consider a case with one treated unit drawn from a sample of $J + 1$ units indexed by j. I assume that the first unit $(j = 1)$ undergoes the treatment, while all other units $(j = 2$ to $j = J + 1)$ do not and are potential donor units that can be used to create a synthetic control unit. I also assume a balanced panel dataset $(t = 1, ...T)$ with both pre-intervention periods (T_0) and post-intervention periods (T_1). The treated unit is exposed to a treatment effect during periods $(T_0 + 1, ...T)$ with no exposure to the treatment during the pre-period.

Because pre-intervention characteristics for a treated unit can be better approximated using a weighted combination of control units rather than drawing from a single control unit, I develop a vector of weights for all control units. This is represented by a $(Jx1)$ vector of weights $W = (w_2 + ... + w_{J+1} = 1)\prime$, with each untreated unit assigned a weight of $0 \leq w_j \leq 1$ and all weights summing to one $(w_2 + ... + w_{J+1} = 1)$. Weights are assigned by minimizing the difference between the actual treated unit and the synthetic control unit during the pre-period, represented by the vector $X_1 - X_0 W$. Thus, the synthetic control unit is chosen by W^*, which is the value of W that minimizes:

$$\sum_{m=1}^{k} v_m (X_{1m} - X_{0m} W)^2, \tag{1}$$

where v_m represents the weight assigned to the mth variable.

1.3

Table 1: Predictor and Outcome Means before Major Money Laundering Cases

	GDP Growth (%)			Foreign Portfolio Investment (millions of dollars)		
	Country	Synthetic	Full Sample	Country	Synthetic	Full Sample
Switzerland	1.82	1.82	3.14	1,873.0	1,873.0	805.5
Panama	6.54	6.54	3.12	13.0	13.2	834.2
Denmark	1.21	1.21	3.11	576.0	584.0	901.3

Notes: Means for the actual and synthetic controls units for each country during the pre-period for the predictor – GDP growth (as the percent change in yearly GDP) – and the outcome – foreign portfolio investment (in millions of dollars). Sample means differ across countries because major money laundering cases occurred in different years, with Switzerland's in 2015, Panama's in 2016, and Denmark's in 2018. Synthetic control estimates are based on a sample of 65 control countries.

The treatment effect is then estimated as the difference between post-intervention outcomes for the treated unit and the synthetic control estimate, formally

$$TreatmentEffect = Y_{1t} - \sum_{j=1}^{J+1} w_j^* Y_{jt}. \qquad (2)$$

3.2.5 Analysis and Results

To test whether news of a money laundering case causes harm to a state's reputation, I measure changes in *foreign portfolio investment* from the IMF Coordinated Portfolio Investment Survey. The data represent a fairly liquid class of investments that foreign investors might adjust in response to changing information about money laundering risk, and includes measures of investment securities, short-term debt instruments, and long-term debt instruments. Scholars have also recently used this data to test for changes in foreign investment following FATF greylisting.[46]

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[46]Case-Ruchala and Nance 2020.

I include one predictor in my model – GDP growth (as a percent) – using data from the World Bank World Development Indicators dataset.[47] I do not include additional predictors – such as a measure of trade volumes – because doing so would greatly restrict my sample of potential control countries due to missing data. Accordingly, I plan to rerun the analysis with additional predictors once this data becomes available for more countries in the sample. Table 1 displays the mean of the predictor and outcome for each synthetic and treated unit, showing close matches between the two.

Figure 8, Figure 9, and Figure 10 display my results. These graphs show a close match between predicted and actual foreign portfolio investment for Denmark, including following news of the Danske Bank scandal. Switzerland's graph, meanwhile, shows some divergence between the predicted and actual foreign portfolio investment, though this does not occur following news of the Swiss Leaks; instead, the two outcomes diverge around 2013, which suggests that another factor may have changed the course of Switzerland's trajectory. Lastly, Panama's predicted and actual foreign portfolio investment follow a roughly similar trajectory and reach similar levels by 2019. Panama's worse fit between the predicted and actual foreign portfolio investment can be explained by the fact that there are fewer developing countries included in the sample, which limits the number of countries that might be a good match for Panama; this is true because a higher proportion of developed countries share data about foreign portfolio investment than developing ones. Importantly, however, I do not see a significant divergence between the predicted and actual outcome following news of the Panama Papers.

As a robustness check, I also estimate synthetic and actual GDP growth following news of a major money laundering case.[48] I measure GDP growth (as a percent) using quarterly data from the Organisation for Economic Co-operation and Development (OECD) for Switzerland

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[47]Vo et al. (2017) identify GDP growth as a relevant predictor of foreign portfolio investment flows.

[48]Although several prior studies have used cross-border bank liabilities to test for an impact of FATF noncompliance lists (Masciandaro 2004; Morse 2019), concurrent trends would bias an estimate using this outcome since there has been widespread consolidation of correspondent banking relationships in the last decade (see Collin et al. (2021)).

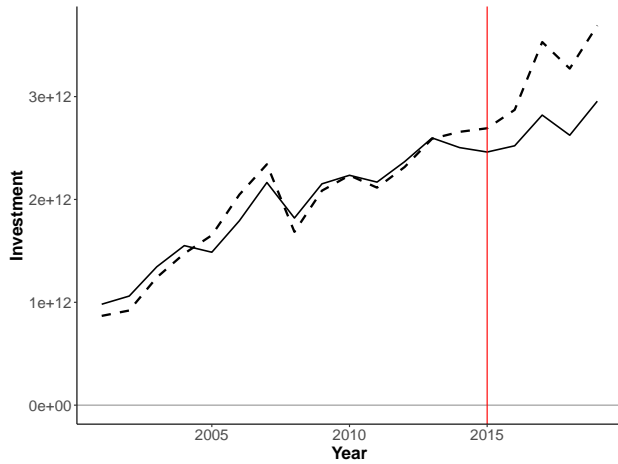Figure 2: Switzerland Investment Growth
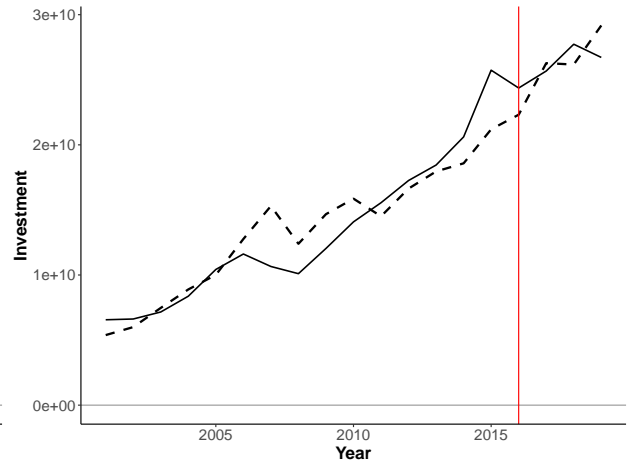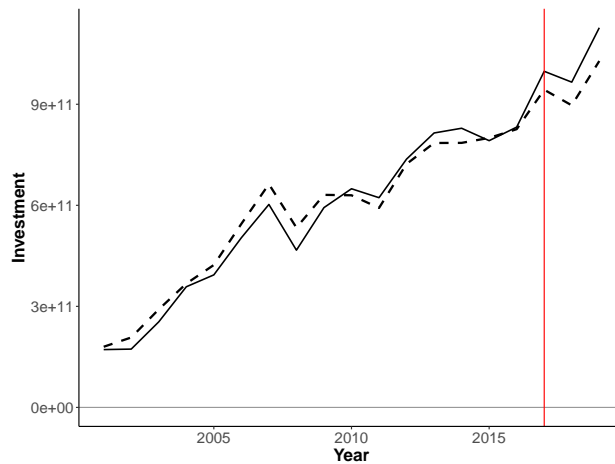
Figure 3: Panama Investment Growth

Figure 4: Denmark Investment Growth

Notes: Graphs show synthetic control estimates for Switzerland, Panama, and Denmark between 2001 and 2019. Each solid line represents the yearly foreign portfolio investment in dollars while each dashed line represents the estimate of foreign portfolio investment for the counterfactual synthetic control unit. Each vertical intercept denotes the year of a major money laundering case.

Figure 5: Switzerland GDP Growth
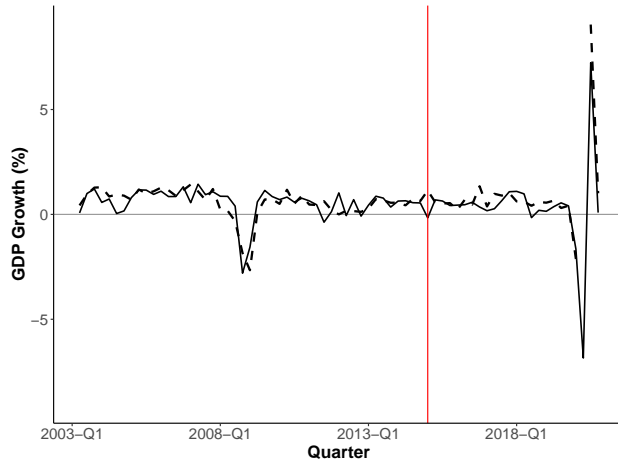
Figure 6: Panama GDP Growth
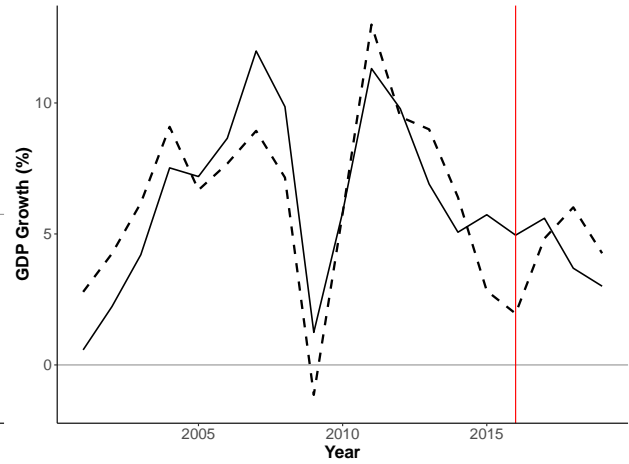
Figure 7: Denmark GDP Growth
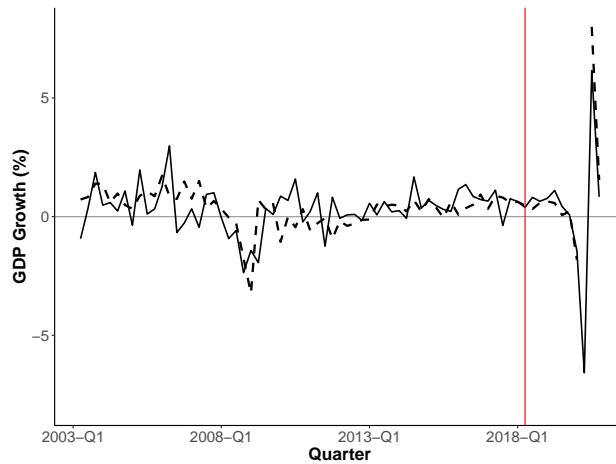
Notes: Graphs show the actual (solid line) and synthetic estimate (dashed line) of GDP growth (as a percent) for Switzerland, Panama, and Denmark. Graphs for Switzerland and Denmark show quarterly GDP growth between Q2-2003 and Q4-2020, with estimates drawn from a sample of 36 OECD countries. Panama's graph shows yearly GDP growth between 2003 and 2019, with the estimate drawn from a sample of 160 control countries. Each vertical intercept denotes the year of a major money laundering case.

and Denmark and yearly data from the World Bank World Indicators Dataset for Panama. Figure 5, Figure 6, and Figure 7 show synthetic control estimates for GDP growth for Panama (2003-2019) and Switzerland and Denmark (Q2 2003-Q4 2020). These graphs show a close fit between the predicted and actual GDP growth for Switzerland and Denmark and a relatively close fit for Panama. As with my first analysis, I find no significant effect of news of a major money laundering case on the outcome.

Our results support the conclusion that news of a major money laundering case *does not* have a significant impact on foreign portfolio investment. I also do not observe a change in GDP growth following news of these cases. Thus, these findings call into question the theory that evidence of money laundering can cause reputational harm for states leading to decreased foreign investment.

3.3 Harm for Financial Institutions

To enable analysis of reputational harm for financial institutions, I have collected a first-of-its-kind dataset of money laundering cases based on articles from two major newspapers – the *New York Times* and *The Financial Times* – between January 1, 2001 and December 30, 2019.[49] Research assistants reviewed articles from each newspaper, creating cases based on articles that described a government opening an investigation into a financial institution or other intermediary for a money laundering related offense. For each case, research assistants noted the location of the investigated intermediary, the investigating party, whether the investigation resulted in a fine (and if so, how much), and the date of initial coverage of the case from the *New York Times* or *The Financial Times*. Research assistants later consolidated entries from both newspapers into a single dataset of money laundering cases.

This dataset provides new insight into temporal and geographic trends for money laundering cases. Figure 8 shows a histogram of the number of money laundering cases by year, which shows noticeable dips in the number of money laundering cases around the time of

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[49]I chose January 1, 2001 as the starting point since money laundering and terrorist financing increased in salience as an international issue following the September 11th terrorist attacks.
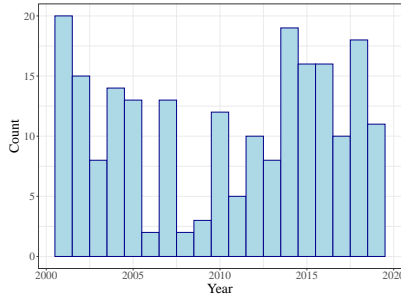
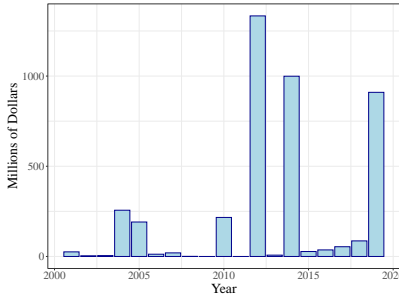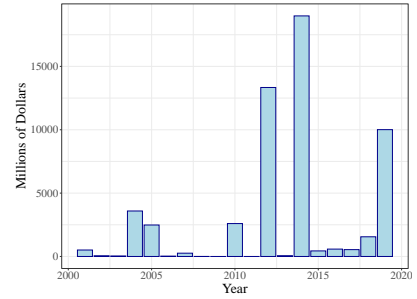| Figure 8: Total Cases	Figure 9: Average Fine	Figure 10: Total Fines

Notes: Histograms show the total cases by year and average and total fines in money laundering cases by year (in hundreds of millions of dollars).

the global financial crisis (2008-09) and the euro crisis (2012); this suggests that financial stress caused by these events may have led governments to divert resources away from the investigation and prosecution of money laundering cases and toward other goals. The data also reveal information about the amount of fines involved in these cases (Figure 9 and Figure 10), with total fines reaching nearly $20 billion in 2014; the average fine is much lower though, even equal to zero for a few years.

Importantly, the data also provide insight into where most investigated intermediaries are located and which countries pursue money laundering cases most often. The country with the highest number of investigated intermediaries is the United States (63), followed by the United Kingdom (26), Italy (11), Russia (9), France (8), Switzerland, and China (both with 7) (Figure 11). The country leading the most money laundering investigations was also the United States, with 102 cases, followed by multinational investigations (29), the United Kingdom (22), Italy (9), Switzerland, and France (both with 6) (Figure 12). Figure 13 shows the frequency of countries participating in multinational money laundering investigations, with Switzerland participating in the most cases (12) followed by the United States (11).

From this data, it is clear that the United States is the dominant actor in money laundering investigations worldwide, accounting for nearly half of all investigations led by a single country. The next closest country, the United Kingdom, investigated less than a quarter the

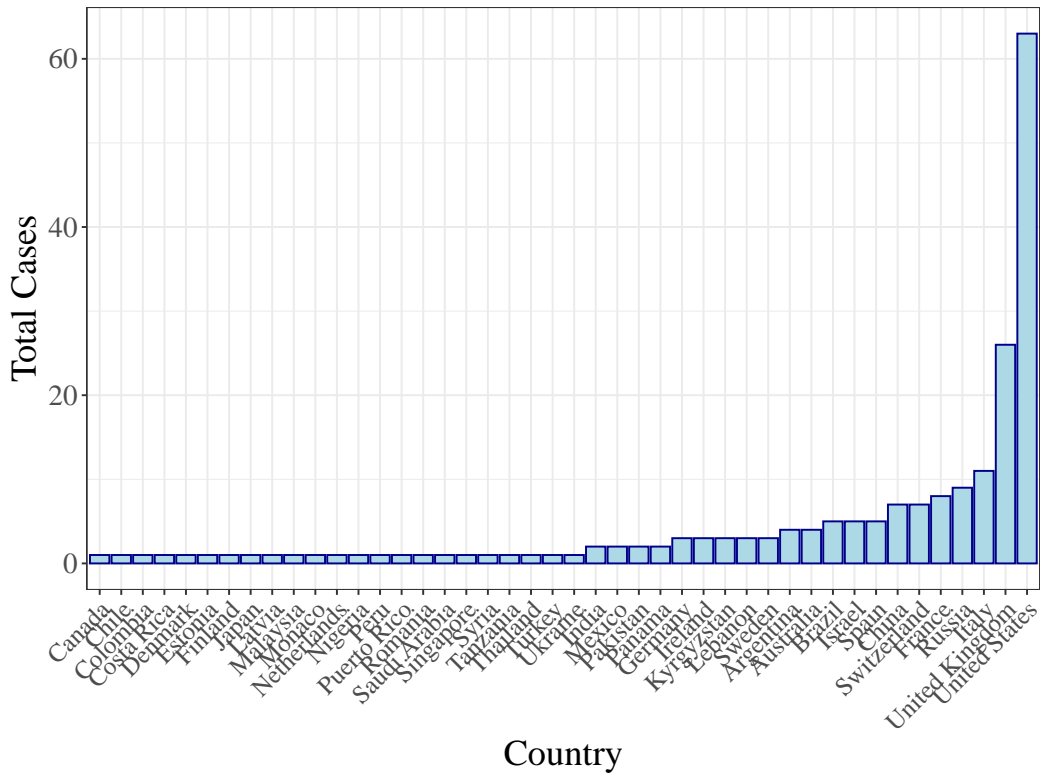Figure 11: Histogram of Cases by Location of Intermediary

Country

Figure 12: Histogram of Cases by Investigating Party
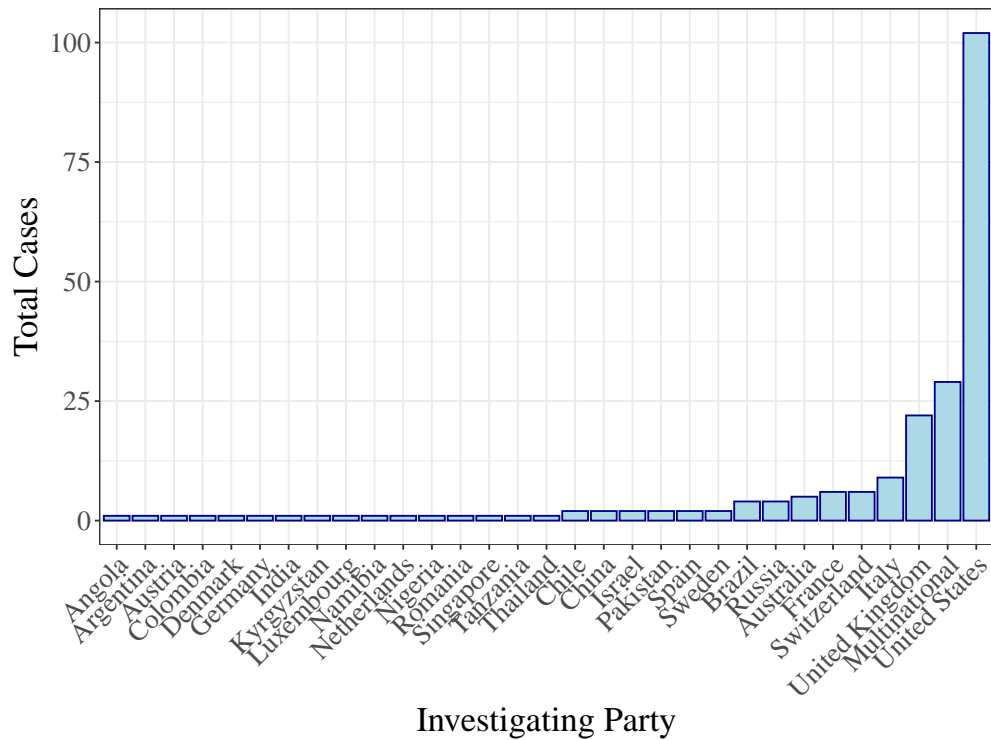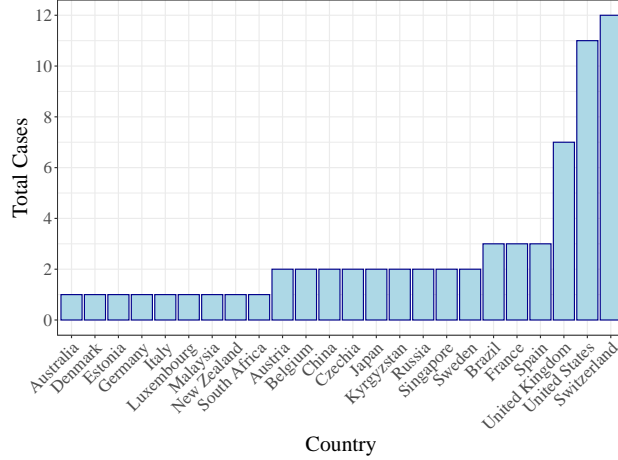

Investigating Party

Figure 13: Histogram of Multinational Cases by Investigating Country

number of cases. While the United States and the United Kingdom are also the number one and two countries with intermediaries involved in money laundering cases, here the skew is not quite as strong, with the U.S. accounting for roughly 29% of all investigated intermediaries worldwide. These trends are likely driven by selection bias – because the United States and (to a lesser degree) the United Kingdom more actively investigate money laundering cases, this leads to a higher number of cases involving intermediaries from these countries.

While selection bias may be present in the cases included in the dataset, this does not present a major concern for my study because I use these cases to measure reputational harm for financial institutions. In my analysis at the state level, meanwhile, I consider several major money laundering cases that were made public through data leaks or investigative journalism. Thus, while certain countries more actively investigate money laundering cases than others, I examine cases that were exposed through means other than government investigations to test for reputational harm at the state level.

Using this dataset, I identify a sample of all financial institutions with securities listed on a major exchange during the time that news of a money laundering case became public; this allows us to measure the impact of this news on security returns. If a bank or financial institution was involved in more than one money laundering case, I consider the most recent case in my analysis. Accordingly, I am left with a sample of 34 unique financial institutions,

which allows us to test for the first time whether news of a money laundering investigation causes reputational harm for financial institutions.

3.3.1 Event Study Method

The event study method offers a way to test for abnormal security returns following news of an event; this method is widely used in the finance literature to measure reactions to earnings announcements and in the economics and law literature to measure price changes following news of new regulations.[50] This method relies on the fact that a security's average returns can be estimated from past returns, which allows researchers to estimate the change in a security's price that is associated with a particular event. I use this method to test whether financial institutions' securities experience abnormal returns in the period after news of a money laundering investigation

I follow the approach to the event study method outlined by Kothari and Warner (2007). Suppose that $t = 0$ represents the day that news of a money laundering investigation becomes public. The returns for a given security (i) is given by

$$R_{it} = K_{it} + e_{it} \tag{3}$$

where K_{it} is the predicted return and e_{it} represents the abnormal component of the return generated by the event. Thus, the abnormal return can be rewritten as

$$e_{it} = R_{it} - K_{it}, \tag{4}$$

which is the actual return (R) minus the predicted return (K).

The goal of an event study is to establish whether the cross-sectional distribution of returns following news of an event is abnormal – that is, it differs from the expected returns.

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[50]Kothari and Warner 2007.

Thus, testing the null hypothesis for a sample of N securities one moment after the event requires testing whether the average residual is equal to zero, formally:

$$AR_t = \frac{1}{N} \sum_{i=1}^{N} e_{it} = 0. \tag{5}$$

However, since I wish to test for abnormal returns in some period after news of an event ($T \in [t_1, t_2]$), I must account for multiple time periods. Accordingly, I take the average of the average residual across time periods in the event window, given by the cumulative average residual (CAR),

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t. \tag{6}$$

To calculate a standard test statistic, I take the cumulative average residual divided by the variance, written as:

$$\frac{CAR(t_1, t_2)}{[\sigma^2(t_1, t_2)]^{1/2}}. \tag{7}$$

This test statistic is then compared to the assumed distribution under the null hypothesis ($CAR(t_1, t_2) = 0$).

I calculate a confidence interval for each estimate using bootstrapping.[51] I draw 10,000 samples from the data with replacement, and then calculate the cumulative average residual for each. I then use the distribution of these 10,000 estimates to calculate 95% confidence intervals.

I also make use of one additional approach within the event study methodology – the market model, which controls for market-specific fluctuations by including the market index as a covariate within the model.[52] Thus, the return for a security (i) is given by

$$R_{it} = K_{it} + \beta rm_t + e_{it}, \tag{8}$$

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[51] DiCiccio, Efron, et al. 1996.
[52] Lefebvre 2007.

where rm is the market index. Here, the abnormal return is given by the actual return minus the expectation of the predicted return conditional on the market index, formally:

$$e_{it} = R_{it} - E(K_{it} \mid rm_t). \tag{9}$$

3.3.2 Analysis and Results

I test for abnormal returns following news of a money laundering investigation using a sample of 34 securities from financial institutions. I calculate returns as the one-day change in a security's opening price divided by the previous day's opening price. The sample includes 19 stocks listed on the New York Stock Exchange, 11 stocks listed on Over the Counter (OTC) Markets, and 4 stocks listed on the Nasdaq. The New York Stock Exchange and the Nasdaq are both major stock exchanges headquartered in New York City, while OTC Markets, also headquartered in New York City, trades securities that are typically worth less. In my sample, a higher proportion of non-U.S. financial institutions are listed on OTC Markets than for the other two.

Table 2: Aggregated Descriptive Statistics by Exchange

	N	Mean	St. Dev.	Min	Max
New York Stock Exchange	93,878	0.0003	0.026	−0.720	0.753
Over the Counter (OTC) Markets	38,429	0.0004	0.036	−0.510	2.333
Nasdaq	16,392	0.001	0.044	−0.522	1.424

Notes: Table presents the minimum, maximum, mean, and standard deviations for securities in the sample grouped by exchange. The unit of observation is the percent change in security price by day.

Table 2 presents summary statistics for the sample; I also include a full list of all financial institutions and descriptive statistics for each security in **??**. In addition, Figure 14, Figure 15, and Figure 16 show the average monthly return for securities in the sample grouped by exchange. These graphs show greater variance in mean prices for securities listed on
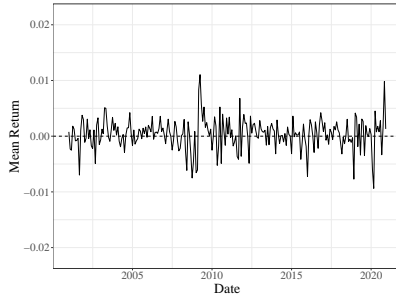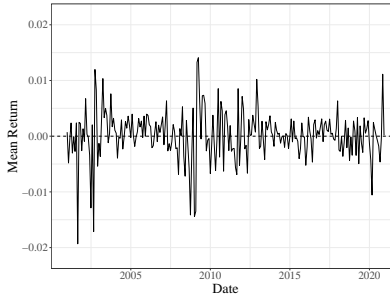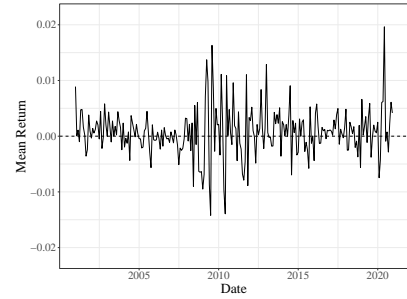
Figure 14: NYSE†	Figure 15: OTC Markets	Figure 16: Nasdaq

Notes: Average monthly returns for securities in the sample between January 1, 2001 and December 31, 2020 (grouped by exchange). †New York Stock Exchange

OTC Markets and the Nasdaq than the New York Stock Exchange. This suggests that an estimate of the securities listed on the New York Stock Exchange will have more power than estimates of securities listed on the other two exchanges.

I begin by estimating a mean adjusted model for the full sample. Figure 17 displays these plots for event windows of 5, 15, 30, 60, 120, and 180 with 95% confidence intervals. These graphs show that news of a money laundering case is not associated with a significant change in security returns, as the estimate and confidence intervals remain close to zero. Thus, I cannot reject the null hypothesis that there are no abnormal returns in the period after news of a money laundering investigation.

I also provide estimates for two subsamples of the data: securities on the New York Stock Exchange and securities on OTC Markets.[53] For securities on the New York Stock Exchange, I use the market model, which includes a coefficient for the market index in the model. Estimates derived using the market model are displayed in Figure 18 for event windows of 5, 15, 30, 60, 120, and 180 days with 95% confidence intervals. These plots show that securities on the New York Stock Exchange experienced abnormal negative returns for several days following news of a money laundering investigation for event windows of 5 and 15 days. However, I do not see a significant negative effect following news of a money

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[53]I do not provide an estimate for securities on the Nasdaq because the sample size is too small to provide a reliable estimate.

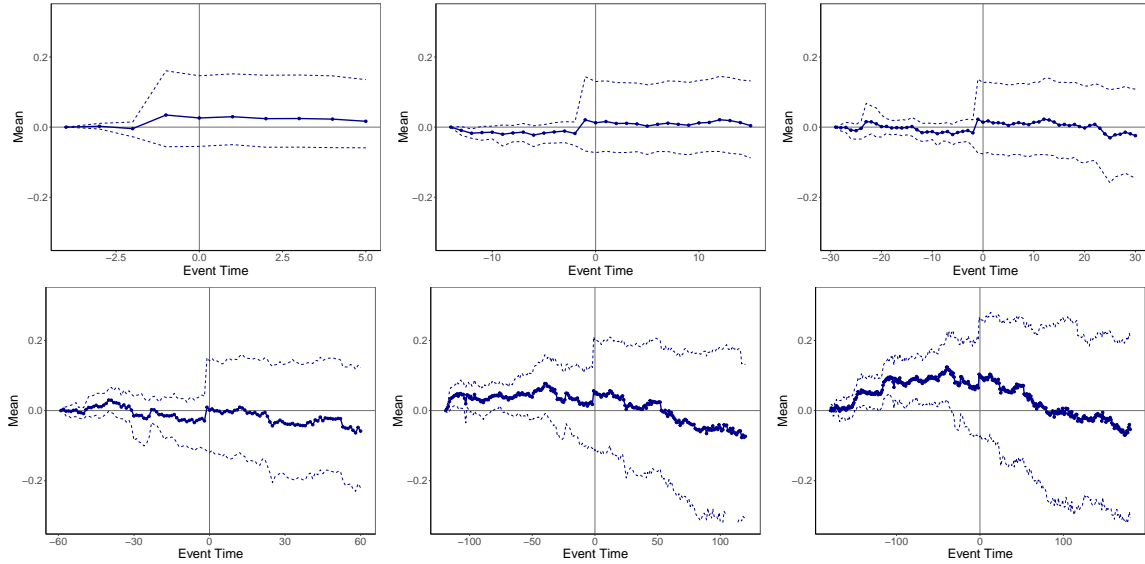## Figure 17: Full Sample, Mean Adjusted Model
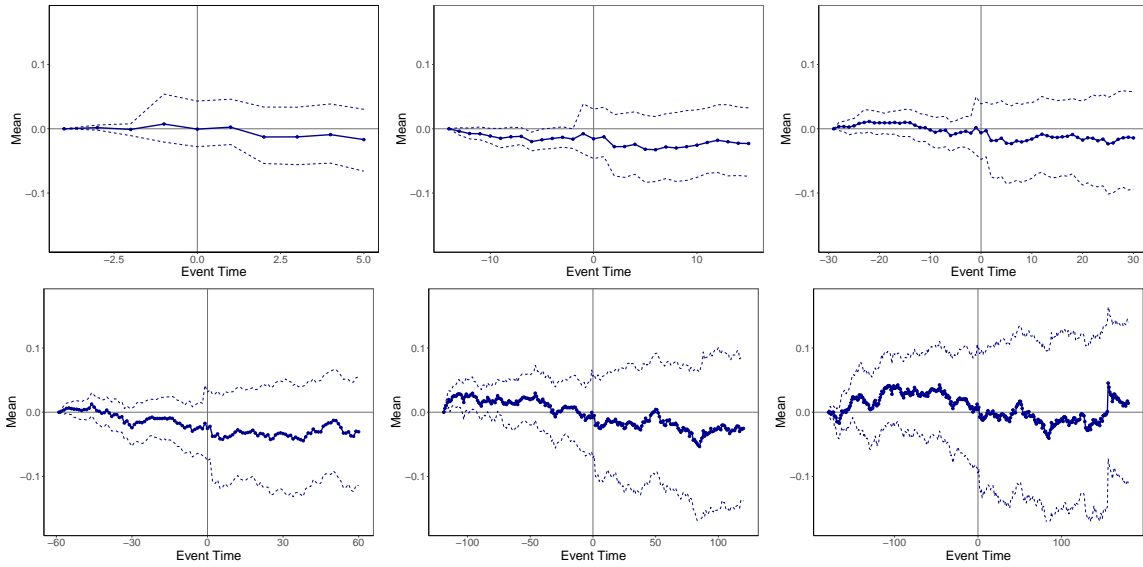
Notes: Graphs show security returns for financial institutions following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using a mean adjusted model. The solid lines denote the estimates while the dashed lines denote the 95% confidence intervals for each.

Figure 18: New York Stock Exchange, Market Model
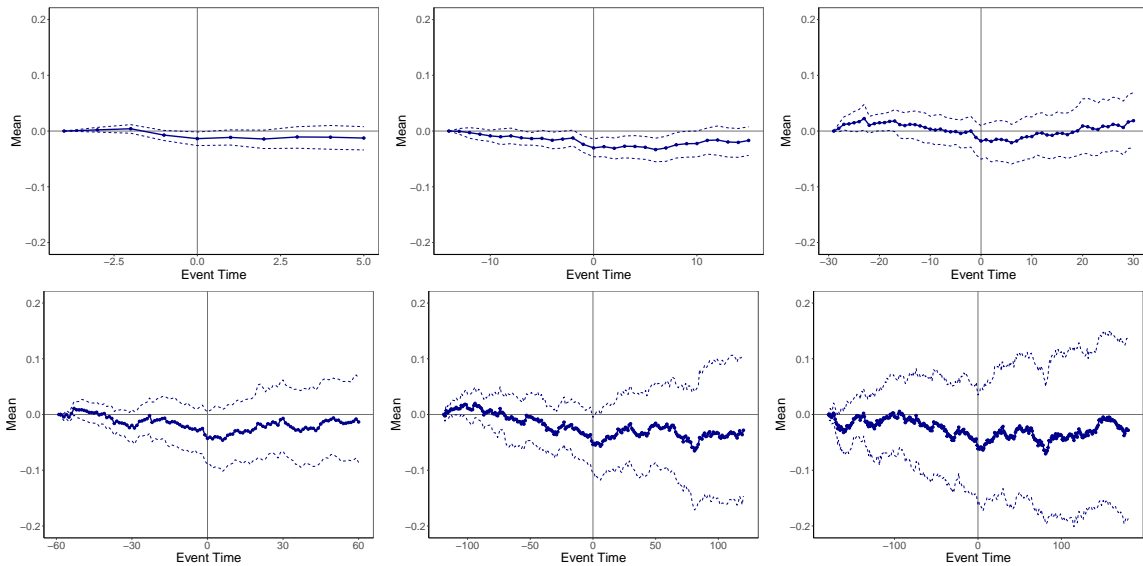
Notes: Graphs show security returns for financial institutions listed on the New York Stock Exchange following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using the market model. The solid lines denote the estimates while the dashed lines denote the 95% confidence intervals for each estimate.

Figure 19: OTC Market, Mean Adjusted Model

Notes: Graphs show security returns for financial institutions listed on the New York Stock Exchange following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using the mean adjusted model. The solid lines denote the estimates while the dashed lines denote the 95% confidence intervals for each estimate.

laundering investigation for longer event windows. Thus, while news of a money laundering investigation may cause a small decrease in security prices (roughly 1%) in the short term, I do not consistently observe this effect for other event windows.

Lastly, I estimate the mean adjusted model for securities listed on OTC Markets (Figure 19). As with estimates based on the full sample, I do not find evidence of abnormal returns in the period after news of a major money laundering case. Accordingly, I cannot reject the null hypothesis that there are no abnormal returns following the event, and this finding is consistent across each of the event windows.

Overall, I do not find evidence that news of involvement in a money laundering case leads to abnormal returns for financial institutions. Though securities listed on the New York Stock Exchange show negative returns in the days following news of a money laundering investigation, this effect is not present for longer event windows. Thus, my findings *do not* support the conclusion that news of a money laundering investigation leads to a decrease in

the price of a financial institution's security.

4 Discussion

Our research design presents several potential limitations I seek to address here. One potential concern centers on whether the cases I have chosen to test for reputational harm among states are appropriate ones to test this theory. Although my findings can be strengthened through additional testing, I argue that these cases offer a good test of the theory as they are some of the most famous money laundering cases with the biggest international impact. Thus, if money laundering cases cause reputational harm for states, I should expect to see harm in these cases given their scale. Of course, additional scope conditions may play a role (e.g., only poor and middle income countries experience reputation costs from money laundering), but for now, I offer a basic test of this theory.

Another potential concern is that transnational investors may have already "priced in" money laundering risk for countries before these money laundering cases became public. For example, investors may have already viewed Panama as presenting a substantial level of money laundering risk even before the Panama Papers, which would explain the absence of changes in investment following this news. I argue this is unlikely because obtaining information about a country's true money laundering risk is extremely difficult. Additionally, one country in the sample, Denmark, had no prior history of money laundering scandals and is consistently regarded as one of the least corrupt countries in the world.[54] Thus, I argue that it is unlikely that transnational economic actors had already "priced in" money laundering risk for these countries.

For financial institutions, meanwhile, the case that money laundering does not cause reputational harm is more straightforward. I find that financial institutions did not experience lower returns on securities following news of a money laundering investigation, which suggests that the market did not view this news as a sign of a major problem.

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[54] *Corruption Perceptions Index* 1995-2020.

One additional explanatory variable that might prove important is the size of a financial institution. Specifically, smaller financial institutions may experience a greater loss of trust – and more reputational harm – as a result of involvement in a money laundering case. Thus, in future research, I plan to include the size of a financial institution as an independent variable to test whether this mediates the reputational harm caused by involvement in a money laundering case.

4.1   Implications for International Cooperation

Our findings call into question claims that money laundering causes reputational costs for states and financial institutions. Importantly, if enforcing these laws does not actually protect against reputational harm because it is not present to begin with, then this removes a powerful incentive for states to enforce these laws.

This point is especially pertinent when considering expectations for wealthy countries, as some argue that wealthy countries are better enforcers of anti-money laundering laws than other countries because they (1) have the resources available and (2) wish to safeguard their often large financial sectors from reputational harm. For example a report from the IMF on the subject states, "The financial sector makes an important contribution to the economies of many of the higher-income jurisdictions, and these jurisdictions have taken steps to protect the integrity of their financial industry and their reputations."[55] Thus, while these states possess the resources to enforce these laws, they may be less committed to enforcing them than previously believed. Indeed, evidence from field studies[56] suggests that developed countries *do not* enforce anti-money laundering laws more actively than developing countries or tax havens, which is consistent with the premise that these actors do not experience significant reputational harm from association with money laundering.

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[55]Verdugo Yepes 2011, pp. 12–13.
[56]Findley, Nielson, and Sharman 2014.

Lastly, these findings suggest that international efforts to combat money laundering may be better framed in terms of preventing social harm rather than preventing financial harm. Although international efforts to promote anti-money laundering enforcement are often framed as a way to protect against financial harm including reputational harm,[57] there is little documented evidence to support these claims. By contrast, there is an abundance of evidence that shows money laundering's predicate crimes cause severe harm, including from crimes involving the illegal drug trade, corruption, and organized crime. Therefore, I suggest that international efforts to combat money laundering may be better presented in terms of an effort to prevent predicate crimes and catch those who commit them rather than an effort to protect against financial harm.

5   Conclusion

In this paper, I empirically examine the theory that money laundering causes reputational harm for states and financial institutions. Unlike prior studies, I operationalize exposure to the reputational risk associated with money laundering using news of a major money laundering case. I use the synthetic control method to test whether news of a major money laundering case led to a decrease in foreign investment (measured by foreign portfolio investment) for three countries and find that it did not. For financial institutions, I use a new dataset of money laundering cases to identify financial institutions with securities listed on a major exchange; I then use the event study method to test whether news of a money laundering investigation led to decreased security returns for involved financial institution, and similarly find no effect. Thus, analysis supports the conclusion that news of money laundering cases did not cause reputational harm for states or financial institutions.

Although these findings are informative, they also highlight the need for additional empirical testing. Future research can help establish whether states experience *other* types of

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[57]See for example Lewis (2019).

financial harm resulting from money laundering, as well as whether states experience reputational harm under any specific circumstances. Future research can also shed light on whether additional variables mediate the impact of money laundering investigations on financial institutions' reputations. Thus, this research highlights the need for additional empirical testing of theories in the anti-money laundering literature.

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