Testing Money Laundering's Economic Costs

Evidence from States and Financial Institutions [*]

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Abstract

Why do countries adopt and enforce anti-money laundering laws? There are two possible explanations put forth by the literature: (1) money laundering presents financial risks for countries and financial institutions, and actors adopt laws to protect themselves from these risks; or (2) countries adopt and enforce anti-money laundering laws because of pressure from a political process carried out by an international organization, the Financial Action Task Force (FATF). We seek to test these two potential mechanisms by measuring whether states and financial institutions experience costs following news of involvement with money laundering and compare this to the potential economic costs states faced after being placed on the FATF's list of Non-Compliance Countries and Territories. Using the synthetic control method, we show that although news of major money laundering cases did not significantly affect economic outcomes, FATF blacklisting contributed to a significant decrease in gross domestic product (GDP) per capita for some countries. Using the event study method, we find that financial institutions did not experience financial losses following news of their involvement in a money laundering investigation. These findings suggest that political rather than economic factors have played a primary role in driving countries' adoption and enforcement of these laws. Consequently, the FATF has played and continues to play an important role in efforts to coordinate international cooperation in anti-money laundering enforcement.

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1 Introduction

Money laundering remains a major international problem despite widespread adoption of anti-money laundering laws.[1] Money laundering (i.e., the process by which criminals disguise and integrate illegal funds into the legitimate financial system) harms society primarily through its connection to "predicate crimes" that create funds for laundering. One of the fundamental goals of anti-money laundering laws is to decrease crime by catching criminals or discouraging them from committing crimes in the first place or by limiting their ability to use illegally-obtained funds.[2] Importantly, implementing these laws requires a coordinated global response because criminals often launder funds in countries other than where initial crimes were committed.[3] Although traditional knowledge holds that failure to enforce anti-money laundering laws is primarily a problem for poor countries and so-called "tax havens,"[4] growing evidence shows that lapses are widespread and also happen in wealthy Western countries.

One major area of weakness is customer due diligence laws, which require banks to screen their customers for money laundering risk. Major lapses in enforcement have been revealed through data leaks, such as a major data breach from HSBC Switzerland that showed Swiss bankers had helped clients hide €180.6 billion from tax authorities.[5] Another data leak, the Panama Papers, revealed that banks and law firms around the world had routinely violated anti-money laundering laws and conducted business with tax evaders, corrupt officials, members of organized crime, and even terrorists.[6] Similarly, recent field experiments shows that banks often fail to adequately screen their customers for money laundering risk as required by law. Surprisingly, wealthy countries were among the worst

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[1]Ninety-six percent of states are compliant or largely compliant with the FATF's directive to criminalize money laundering.

[2]In 2012, the FATF amended its recommendations to include tax evasion as a predicate crime for money laundering.

[3]For example, money laundering case show heads of Mexican drug cartels have extensively used U.S. banks to launder funds. (U.S. Department of Justice 2012)

[4]Schwarz 2011.

[5]Michel, Davet, and Lhomme 2017.

[6]Lipton and Creswell 2016.

offenders, with compliance rates in the United States and United Kingdom at 30% and 52% respectively.[7] These data leaks, experimental evidence, and money laundering cases reveal the breadth of failures to enforce anti-money laundering laws worldwide.

Given these major lapses, social scientists seek to better understand the mechanism(s) that lead countries to adopt and enforce anti-money laundering laws. One potential mechanism is the economic costs caused directly by money laundering itself. Indeed, scholars argue that money laundering can cause significant economic harm for countries through decreased foreign investment,[8] financial instability,[9] and poor economic growth.[10] Importantly, financial, economic and reputational harm associated with money laundering suggests a self-enforcing mechanism for anti-money laundering laws: countries with the capabilities to do so will enforce these laws to protect their financial sectors and economies as a whole.

Another potential mechanism leading countries to adopt anti-money laundering laws is political pressure, particularly from the Financial Action Task Force (FATF), an international organization dedicated to combating money laundering. Beginning in 2000, the FATF placed 21 countries on its list of "Non-Cooperative Countries and Territories," which became known colloquially as the blacklist; FATF members (including many OECD countries) responded by issuing financial advisories or other sanctions against blacklisted countries until the FATF deemed them compliant and removed them from the list. Through this process, the FATF was able to achieve near universal adoption of FATF standards, although the process remains controversial among small and developing countries.

Accordingly, the literature presents two possible reasons countries may adopt and enforce anti-money laundering laws: (1) states adopt these measure for self-interested reasons because they wish to protect themselves against the financial harm caused by money laundering, or (2) states adopt these measures because they face international pressure as part of a political process. We seek to test these two potential mechanisms by measuring whether

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[7]Findley, Nielson, and Sharman 2014, p. 76.

[8]Morse 2019.

[9]Quirk 1997.

[10]Masciandaro, Takats, and Unger 2007.

states experience economic costs after being placed on the FATF blacklist *or* after new of a major money laundering case that shows a significant failing in a country's anti-money laundering system. We also test whether financial institutions experience reputational harm (in the form of decreased security returns) following news of involvement in a money laundering investigation.

To test whether blacklisting or news of a major money laundering case produces national economic harm, we use the *synthetic control method*, which enables causal estimates by generating a counterfactual "synthetic" control unit based on a weighted average of like countries. We find that while blacklisting lowered gross domestic product (GDP) per capita for one third of the countries in our sample, although news of a major money laundering case did not cause economic harm at the national level. This suggests that countries likely experienced more economic harm as a result of FATF blacklisting than from evidence of money laundering itself.

Beyond the national level, we test whether individual financial institutions experience reputational harm as a result of involvement in a money laundering investigation. To enable this research, we 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 new insight into which countries carry out public money laundering investigations and which countries have the highest number of publicly investigated intermediaries (i.e., private sector actors like financial institutions charged with screening their customers for money laundering risk). We use the *event study* methodology to measure whether financial institutions experience a decrease in security prices following news of a financial institution's involvement in a money laundering investigation. We find no evidence that a financial institution's security returns differed significantly from the predicted returns following news of a money laundering investigation.

Our findings suggest that although countries and financial institutions may not experience reputational costs based *solely on evidence of money laundering itself*, some countries

experienced reputational harm as a result of blacklisting. For scholars of international cooperation, this underscores the important role the FATF played in the anti-money laundering regime, but suggests the FATF and national actors have struggled to adequately identify and monitor defection because of the lack of reliable data about money laundering and enforcement more broadly.

The remainder of this paper proceeds in four parts. In part two, we discuss our theory. We examine the literature on reputation costs associated with money laundering and argue that FATF blacklisting more closely resembled a political process rather than a reliable signal about a country's money laundering risk. In part three, we outline our state-level research method (synthetic control), analysis, and results for the effect of FATF blacklisting and news of a major national money laundering case on national economic outcomes. In part four, we present our research method (event studies), analysis, and results for financial institutions involved in money laundering investigations. Finally, in part five, we offer concluding thoughts on this research.

2   Theory

2.1   Economic Costs

One strain of literature suggests that countries experience economic costs associated with money laundering, either through direct harm to the financial or economic systems or reputational harm due to association with money laundering. Although these potential sources of harm are widely referenced, the literature lacks a detailed discussion of how some of these potential harms function in practice. Below, we address the major potential financial or economic risks identified by the literature and seek to evaluate each claim in light of recent empirical evidence.

2.1.1 Direct financial risks

Economic Distortions and Poor Economic Growth

One potential harm of money laundering is a distortion of capital within the economy, which may, in turn, harm economic growth.[11] This theory is based on the insight that because criminals wish to obscure the origins of illegally-obtained funds, they value secrecy more than legal customers; as such, they may be willing to pay above-market prices for assets if these purchases allow the buyer to maintain a higher level of secrecy than would be possible for other investments. On a large scale, this pattern of behavior may lead money launderers to drive up prices in certain sectors, and by extension, cause the economy to grow more slowly due to the inefficient use of capital within it. Unger et al. (2006, p. 86) summarizes this argument writing,

> 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.

Empirically, there *is* evidence that money laundering has artificially driven up prices in certain sectors.[12] This phenomenon is most closely associated with the real estate sector, since the United States and a number of other wealthy countries have laws requiring less scrutiny of the identity of a person purchasing real estate than other types of assets (e.g., stocks, bonds, etc.).[13] Indeed, lax laws in the real estate sector 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.[14]

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

[12]Unger et al. 2006.

[13]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.

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

Although artificially high prices are unequivocally bad for society, it is less clear that sector-wide price distortions – and the inefficient use of capital caused by money laundering more broadly – may harm national economic growth. Specifically, this claim rests on the assumption that laundered funds would have been used more productively in the absence of money laundering. However, since the substitutes for money that goes to crime are unknown *and* money laundering itself can provide economic benefits in the form of increased investment and tax revenue, it is unclear whether these funds would have been used in ways that better contributed to the economy as a whole in the absence of money laundering.

Financial Instability

Another potential harm is national financial instability.[15] 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 – they may behave in ways that increase volatility in the market. For example, a criminal might rapidly withdraw funds from an investment in response to the introduction of a new law that threatens to expose her identity.

Empirically, there is little evidence that money launderers withdraw funds more erratically than legal customers. Instead, money launderers are often subject to the same constraints as legal customers, such as the time it takes to sell real estate holdings. Importantly, this theory rests on the extrapolation of an individual-level behavior – erratic withdrawals of funds – to a national trend – the aggregation of this behavior produces economic instability, yet we have little evidence of this behavior at the individual level and no known cases of this phenomenon at the national level. 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.[16]

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[15]Quirk 1997; Unger et al. 2006.
[16]Reuter 2013.

Criminal Contagion

Lastly, money laundering could produce economic harm by introducing the risk of criminal contagion: because money laundering is illegal, its presence may make those in the financial sector more likely to break other laws; these include bribing government officials, which in turn may increase corruption. For example, Quirk (1997, pp. 8–9) writes, "[C]ontempt for the law is contaminating – breaking one law makes it easier to break others." The proposed mechanism is that "criminal money attracts crime" – criminals will become familiar with a country as they launder money and may use this knowledge to develop new criminal networks.[17] Thus, the logic goes, money laundering may lead to other criminal activity that can severely harm a state's economic performance, including the payment of bribes and increased government corruption.

Although individuals involved in money laundering *may* be more likely to break other laws, we do not have evidence that this has happened on a large scale. It is also worth noting that many large-scale money laundering cases have played out in ways that are more innocuous than some might imagine; for example, a single branch of Denmark's largest bank, Danske Bank, allowed an estimated €200 billion in dirty money to flow through the bank during an 8 year period.[18] In this case, the bank's failure was unlikely to contribute to a significant influx of criminal activity within the financial sector since the number of individuals involved were relatively few and the failure was primarily a systematic one at the level of the bank rather than the result of individual criminal activity. Indeed, our data show that most documented money laundering cases involving financial institutions have occurred in wealthy countries like the United States, United Kingdom, and Switzerland, countries with relatively little crime in the financial sector and low levels of corruption. Thus, there is little evidence that the presence of money laundering increases criminal activity within a country's financial sector.

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

[18]Milne 2018.

2.1.2 Reputational Risks

In addition to direct financial and economic risks, another potential harm caused by money laundering is reputational damage. Theories of reputational costs have arisen primarily from the literature on international cooperation and international law, which contend that states seek to develop a reputation (i.e., a record of past behavior) for cooperation to ensure continued access to cooperative agreements with other states.[19] Consequently, a state will seek to avoid behavior that damages its reputation, since it is a valuable resource that can ensure continued access to lucrative business and investment relationships.

Scholars argue that both states and individual financial institutions wish to safeguard their reputations against the harm that association with money laundering could cause.[20] Specifically, countries that are associated with money laundering may be viewed as having riskier financial sectors with inadequate regulation, which could expose foreign investors to potential losses.[21] Beyond countries, foreign investors and other economic actors may also come to view specific financial institutions as risky due to their association with money laundering leading market actors to cut off business relations with these financial institutions. Unger et al. (2006, p. 90) summarizes the risks for financial institutions writing,

> 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.[22]

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[19]International relations scholars argue that a country's reputation is important since there is no overarching authority in international relations to ensure that states abide by their agreements. Although states can mutually gain through cooperation, states often also have an incentive to privately defect on an agreement, which often would impose significant costs on the other cheated country. Accordingly, reputation becomes an important heuristic for states to determine which states present reliable partners for cooperative agreements. See Axelrod and Keohane (2018) for an overview of this literature.

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

[21]For example, Unger et al. (2006, p. 91) writes, "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." See also Morse (2019).

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

Unlike some other potential financial harms, previous studies have sought to rigorously test the reputational harm associated with money laundering at the national level.[23] Importantly, these studies have operationalized the reputational harm associated with money laundering by considering states placed on one of several FATF noncompliance lists designed to identify states that are performing poorly with regard to anti-money laundering measures. However, because of the process through which states were selected for the list, we argue that these lists more rightly represent the output of a *political process* rather than a signal about a country's true money laundering. Further, to the best of this author's knowledge, no study systematically examines economic harm for individual financial institutions involved in money laundering cases. Although far from comprehensive, this brief survey calls into question claims that money laundering itself causes economic or financial harm for countries or financial institutions.[24]

2.2   Political Costs

Another potential explanation is that countries have adopted and enforce anti-money laundering laws for primarily political reasons in a process driven by the FATF. The FATF was formed as a temporary task force by the G7 countries in 1989. The FATF's initial mandate was to help coordinate the international response to illegal financial flows stemming from the illegal drug trade, and it began this effort by drafting a set of policy recommendations for best practices to combat money laundering. After releasing these recommendations, the FATF began reviewing member states' progress toward these goals through a process of peer review called Mutual Evaluation Reports. These periodic reports, which the FATF continues to issue today, provide technical evaluations of how states' legal and regulatory systems compare to the FATF's standards. Based on this process, the FATF was able to achieve a high level of policy convergence from its members during the 1990s.[25]

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

[24]Reuter (2013) and reaches a similar conclusion.

[25]One exception to the cooperative nature of this process occurred when the FATF threatened to remove Austria as a member if the country did not agree to drop one of its financial secrecy laws, which it did

Near the end of the decade, the FATF turned its attention outward toward non-members.[26] The FATF and the G7 countries began encouraging non-members to adopt the FATF's standards by offering technical assistance and other material support, leading many countries to voluntarily incorporate these new standards into national law.[27] Not all countries were willing to comply, however, as a small group of countries with very large financial sectors resisted the FATF's push for common standards.[28] In light of this resistance, the FATF adopted a new approach to push reluctant states toward adopting these commons standards.

Blacklisting

In February 2000, the FATF published criteria and a timeline for reviewing countries for inclusion on a list of "non-cooperative countries and territories in the international fight against money laundering;"[29] this document also included a menu of economic "countermeasures" FATF members should be ready to implement if directed to by the FATF; these ranged from issuing financial advisories to full economic sanctions.[30] In the next few months, the FATF reviewed 29 jurisdictions and placed 15 on the first blacklist, which was issued in June of that year (2000).[31]

Blacklisting sparked swift and decisive action from nearly all listed jurisdictions. The four biggest offshore financial centers on the list – the Bahamas, Cayman Islands, Liechtenstein, and Panama – responded by quickly meeting all the FATF's demands.[32] Another seven countries – the Cook Islands, Dominica, Israel, Lebanon, the Marshall Islands, St. Kitts and Nevis, and Russia – made significant concessions, while three others – Niue, Philippines, and St. Vincent and the Grenadines – took actions that allowed them to avoid sanctioning by FATF members. Only one country, Nauru, did not make concessions quickly enough to

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(Sharman 2009).

[26]For a list of FATF member countries and the year of admission, see Appendix A.
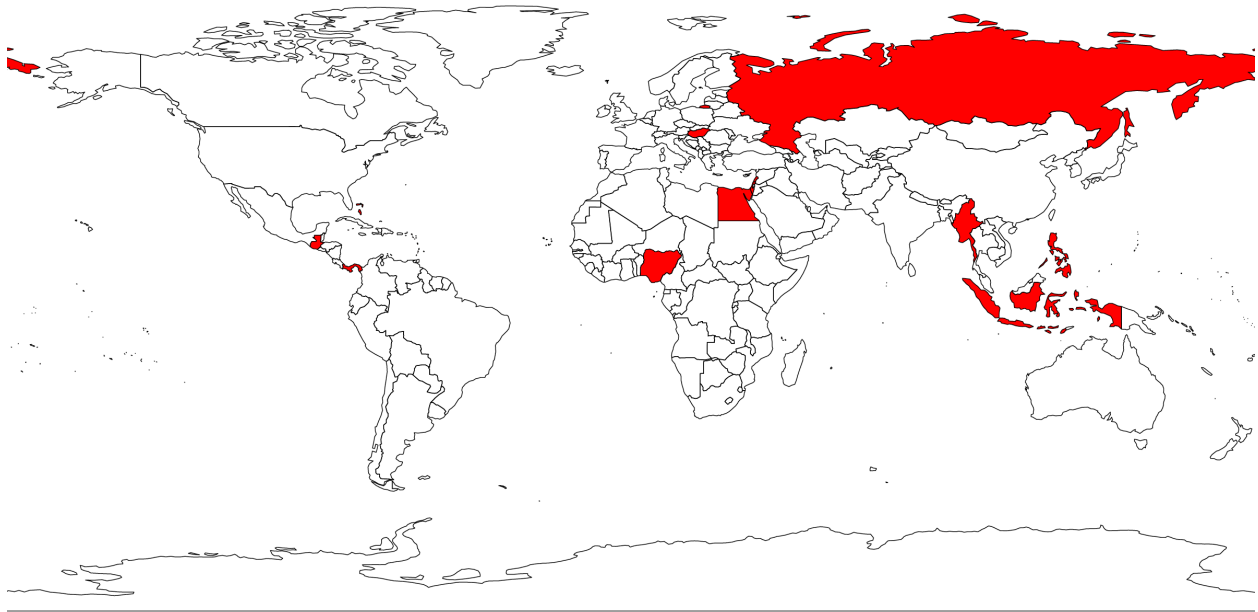
[27]Hülsse 2008.

[28]Simmons 2001.

[29]Financial Action Task Force 2000, p. 1.

[30]For simplicity, we refer to FATF member states as FATF members.

[31]Drezner 2003.

[32]Eggenberger 2018.

Figure 1: Blacklisted Countries

satisfy the FATF, leading the United State and other FATF members to impose full economic sanctions against the country; the FATF later removed Nauru from the blacklist several years later after it implemented major policy changes.[33]

The following year, the FATF reviewed another 18 countries and territories and placed another 8 on the blacklist.[34] These countries also responded quickly to the FATF's stipulations and avoided full sanctions by FATF members. However, after two years, the FATF abruptly suspended review of new countries for the list; it continued to review the progress of blacklisted countries until 2006, when the last country was removed from the list.

By nearly all accounts, the blacklist was extremely successful in bringing about policy changes in listed countries.[35] Blacklisting led 73% of listed countries to implement major concessions,[36] and it is also credited with having created a "demonstration effect" that led other reluctant countries to preemptively adopt these policies.[37] The FATF also concluded

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[33]Drezner 2003.
[34]Sharman and Chaikin 2009.
[35]Sharman 2009; Sharman and Chaikin 2009; Drezner 2008; Eggenberger 2018; Hülsse 2008.
[36]Drezner 2003.
[37]Drezner 2005, pp. 852–853.

that blacklisting was a success, with a representative commenting, "[O]verall the [blacklist] has proved to be a very useful and efficient tool to improve worldwide implementation of the FATF 40 Recommendations."[38] Despite wide recognition of its effectiveness, however, there is a lack of consensus about how the list actually brought about these changes.

2.2.1 Nature of FATF Blacklisting

Some have argued that although the FATF issued the blacklist, its true economic power came from decentralized market actors who reacted to the information.[39] According to this explanation, the FATF blacklist served as a way to clearly identify countries performing poorly in the area of anti-money laundering laws, and private market actors (who are concerned with their reputations and financial risk) responded to this information by diverting transactions away from financial institutions in these countries.

Although the FATF blacklist certainly offered a clear focal point for actors, we argue FATF blacklist more closely resembled a political process rather than a neutral assessment of countries' money laundering risk. Accordingly, we argue that states and market actors that diverted funds away from blacklisted countries did so primarily for political reasons rather than out of concern for financial risk. Below, we discuss how political interests factored into the blacklisting process and highlight that the criteria the FATF used to evaluate states – namely their "laws on the books" – cannot illuminate the *effectiveness* of a country's anti-money laundering system because it does not measure enforcement.

Politics & the Blacklisting Process

Critics argue the blacklisting process was subject to influence by powerful FATF member states. Importantly, the FATF only reviewed some countries for inclusion on the blacklist, and notably did not evaluate two FATF member states – Switzerland and Luxembourg – even though they were eligible to be blacklisted based on the FATF's criteria. The criteria

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[38]Hülsse 2008.
[39]Morse 2019.

used to evaluate countries for blacklisting was also more stringent than the FATF's own recommendations, which it used to assess the performance of its member states on a regular basis.[40] This incongruity led the FATF demand more stringent measures from some black-listed countries than those adopted by its own members, such as when the FATF required that the Bahamas license all financial institutions to be removed from the blacklist even though no FATF member had adopted similarly strict measures.[41]

In some cases, this unequal treatment between FATF members and other states can be traced directly to power politics within the FATF. Switzerland, for example, was able to withstand pressure to limit its financial secrecy laws due to a tacit agreement with Britain: although Swiss representatives had previously argued that British trusts created a loophole for tax evaders, Switzerland agreed to drop these objections in exchange for Britain's agreement not to take issue with Swiss financial secrecy laws.[42] This sort of political horse trading was not a viable option for less powerful states, which did not hold a seat at the table during these negotiations.

Consequently, many blacklisted countries came to view the process as fundamentally unfair and a violation of state sovereignty.[43] A representative of Liechtenstein, for example, commented that FATF blacklisting process was "unreasonable," particularly because the FATF's procedures did not demonstrate the "transparency that could be expected in a process of such gravity."[44] Pushback was especially strong from many Caribbean countries, with one representative of Antigua declaring it unacceptable that "a handful of states, however powerful, should usurp the right to dictate standards to the rest of the world under the threat of imposition of sanctions;"[45] another Caribbean representative likened blacklisting to "fiscal colonialism."[46] Thus, the politics involved in blacklisting dispel the notion that the

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[40] Eggenberger 2018.
[41] Sharman 2011.
[42] Sharman 2009.
[43] Sharman 2011; Drezner 2003; Hülsse 2008; Eggenberger 2018.
[44] Hülsse 2008, p. 465.
[45] Hülsse 2008, p. 464.
[46] Sanders 2002.

process was purely an objective one dedicated to identifying risky jurisdictions.

Enforcement Lapses

Second, we argue that the FATF blacklist did not serve as a good measure of countries' money laundering risk because the criteria was primarily based on national laws rather than an overall assessment of countries' anti-money laundering systems. Although a country must certainly have certain laws in place before they can be enforced, the anti-money laundering system in particular is one where enforcement may diverge significantly from "laws on the books." Thus, knowledge of existing laws alone tells us little about a country's money laundering risk, an outcome that is driven by the scale of money laundering problem a country faces (something that is generally unknown) and the efficacy with which the national system responds to this threat (a topic for which there is little systematic data).

Importantly, a series of large-scale field experiments show significant lapses in anti-money laundering enforcement by private sector actors including banks and corporate service providers.[47] An analysis of anti-money laundering enforcement by cryptocurrency businesses also shows significant lapses across most jurisdictions included in the sample.[48] Thus, given the lack of visibility into the effectiveness of countries' anti-money laundering systems (i.e., how well a system manages a country's money laundering risk), we argue that the blacklist did not offer a reliable assessment of a country's money laundering risk for market actors.

2.2.2 Why might blacklisting cause financial harm?

We hypothesize that being placed on the blacklist can cause countries financial harm through two major pathways. First, states played a major role in directing how markets responded to blacklists, as the FATF relied on its members to implement countermeasures against blacklisted states. At the minimum, FATF members agreed to issue financial advisories against blacklisted states, which required that intermediaries in these countries perform enhanced

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[47]Findley, Nielson, and Sharman 2014; Findley, Nielson, and Sharman 2015.
[48]Nershi 2021.

customer due diligence for all transactions involving a blacklisted country. This imposed additional costs on intermediaries, which already face significant costs from compliance programs more generally.[49] Indeed, costly compliance measures have often led banks to engage in "de-risking," whereby banks cut off business relations with specific types of customers or even all customers from a specific country because banks deem them unworthy of the compliance costs.[50] FATF members also include the world's biggest and most sophisticated economies, so whatever countermeasures they imposed were multiplied by their combined market power.

Second, FATF blacklisting may have caused reputational harm for countries. Based on interviews with officials in blacklisted countries, Sharman (2009) concludes that concerns over reputational harm led many of these countries to take action to meet the FATF's stipulations. However, unlike our discussion of reputation in subsubsection 2.1.2, we argue that the primary risk to a country's reputation ws caused not by an objective measure of money laundering risk but rather the stigma associated with the output of this political process. Thus, both the state muscle behind the FATF's blacklist *and* the stigma associated with the process could lead blacklisted countries to suffer economic costs.

3 National Reputational Harm

3.1 Synthetic Control Method

We measure the economic impact of blacklisting and major money laundering cases using the synthetic control method,[51] which enables causal inference by estimating the counterfactual for a treated unit in the absence of an intervention. This method offers a way to examine treatment effects when there are a small number of treated units and treated units are highly idiosyncratic (preventing any single control unit from serving as a good counterfactual), both

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[49]See Levi, Reuter, and Halliday (2018) for a discussion of these costs.
[50]Levi, Reuter, and Halliday 2018.
[51]Abadie and Gardeazabal 2003; Abadie, Diamond, and Hainmueller 2010.

of which are true of our analyses. The synthetic control method addresses this problem by creating a "synthetic" control unit based on key characteristics of the treated unit during the period before treatment, which is constructed using a weighted average of the potential control units. This approach also provides a systematic and transparent approach to case selection for countries included in the weighted average.[52]

The synthetic control method has been use to measure economic outcomes at the national and subnational level across a range of irregular events. In a seminal paper, Abadie and Gardeazabal (2003) use the method to measure the impact of terrorist attacks carried out by Basque separatist groups on the economic growth of Basque country using a synthetic control unit based on a weighted combination of other Spanish territories. Abadie, Diamond, and Hainmueller (2010) test whether West Germany experienced abnormally low economic growth in the years following its 1990 reunification with East Germany using a synthetic West Germany. Accordingly, we seek to contribute to this growing body of literature by using the synthetic control method to measure the economic impact of FATF blacklisting and news of a major money laundering case on national economic outcomes.

We follow the synthetic control method developed by Abadie, Diamond, and Hainmueller (2015), which we summarized here. For simplicity, we consider a case with one treated unit drawn from a sample of $J + 1$ units indexed by j. We 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 for the treated unit. We 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 effect from 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, we develop a vector of weights for all control units. This is represented by a $(Jx1)$ vector of

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[52]Abadie, Diamond, and Hainmueller 2015.

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 pre-intervention of the actual treated unit and the synthetic control unit, 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.

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

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

3.2   Data

3.2.1   FATF Blacklisting

We begin by considering all blacklisted countries and territories, displayed in Figure 1. We remove blacklisted countries that experienced a major macroeconomic event before or after blacklisting that impacted GDP per capita, which could confound an estimate of the impact of blacklisting. Thus, we remove countries that were affected by the Asian Financial Crisis in the late 1990s (Philippines, Indonesia), former Soviet Union countries (Russian Federation, Ukraine), and Lebanon, which experienced a war in 2006.[53] We also remove nine jurisdictions that are missing data on the dependent variable. Afterward, we are left with a sample of 165 control countries and 9 treated countries, roughly 40% of blacklisted countries and territories.

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[53]Although Hungary was also a part of the Soviet Union, its GDP per capita does not show unusual activity in the pre-period.

Table 1: Blacklisted Countries

Country	Years on Blacklist	Sample	Reason Excluded
Bahamas	2000	✓	
Cayman Islands	2000	–	Missing data
Cook Islands	2000-2005	–	Missing data
Dominica	2000-2002	✓	
Egypt	2001-2004	✓	
Grenada	2001-2003	–	Missing data
Guatemala	2001-2004	✓	
Hungary	2001	✓	
Indonesia	2001-2005	–	Macroeconomic trends (*Asian Financial Crisis*)
Israel	2000-2002	✓	
Lebanon	2000-2002	–	Macroeconomic trends (*war*)
Liechtenstein	2000	–	Missing data
Marshall Islands	2000-2002	–	Missing data
Myanmar	2001-2006	–	Missing data
Nauru	2000-2005	–	Missing data
Nigeria	2001-2006	✓	
Niue	2000-2002	–	Missing data
Panama	2000	✓	
Philippines	2000-2005	–	Macroeconomic trends (*Asian Financial Crisis*)
Russia	2000-2002	–	Macroeconomic trends (*Former USSR*)
St. Kitts and Nevis	2000-2002	–	Missing data
St. Vincent and the Grenadines	2000-2003	✓	
Ukraine	2001-2004	–	Macroeconomic trends (*Former USSR*)

Notes: This tables presents all blacklisted countries and specifies which are included in the sample. Each country that was excluded from the sample has a reason specified. *Missing data* denotes jurisdictions that are missing data for the dependent variable in the pre-period. *Macroeconomic trends* denotes jurisdictions that experienced a major disruptive event before or after blacklisting.

3.2.2 Major Money Laundering Cases

To test whether news of a major money laundering case causes reputational harm, we focus on three cases selected on the basis of: (1) the scale of the money laundered, and (2) the amount of international attention each case attracted. We provide a brief overview of each case below.

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.[54] 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.[55]

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.

Panama Papers

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[54]Fitzgibbon 2015.

[55]Reuters Staff 2017.

Second, we 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 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.[56] 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.

Danske Bank Scandal

Third and last, we 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 misconduct.[57]

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.

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[56]Fitzgibbon and Hudson 2021.

[57]Milne 2018.

3.3   Dependent Variables

3.3.1   FATF Blacklisting

The primary theorized way that blacklisting may harm countries is by leading to a decrease in foreign portfolio investment. Though some studies operationalize the outcome using cross-border bank liabilities (albeit with different specifications),[58] recent studies suggest cross-border portfolio asset investments offer a better outcome to measure the effect of blacklisting because they are a more liquid asset class than cross-border bank liabilities.[59] Figure 2 shows foreign portfolio investment for each blacklisted country with available data (2001-2014) using data on cross-border portfolio asset investments from the Bank of International Settlements. These graphs show that most countries did not experience a decrease in foreign portfolio investment following blacklisting, but without additional information, it is impossible to understand how these levels compare to what the total investment *would have been* without blacklisting. Thus, this outcome cannot be used to measure the impact of blacklisting because data is not available for the years before blacklisting.

Accordingly, we use an aggregate measure of economic output as the dependent variable – gross domestic product (GDP) per capita. This aggregate measure can capture ways that blacklisting might harm the economy independently of foreign investment, such as if fewer new businesses are incorporated in a jurisdiction after blacklisting. However, an aggregate measure also sets a high bar for measuring a potential treatment effect since generally only major exogenous events (e.g., financial crises) impact GDP per capita. Thus, while GDP per capita offers the best outcome variable to test the effect of blacklisting given the lack of available data, we should view this specification as a "hard test" of the prediction that blacklisting causes financial harm.

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[58]Balakina, D'Andrea, and Masciandaro (2017) constructs a measure of bank flows as $BankFlow_{i,t+1} = \log(\frac{BankLiabilities_{i,t+1}}{BankLiabilities_{i,t}})$, while Morse (2019) considers the log of bank liabilities for a given year.

[59]Case-Ruchala and Nance 2020.

Figure 2: Total Investment for Blacklisted Countries
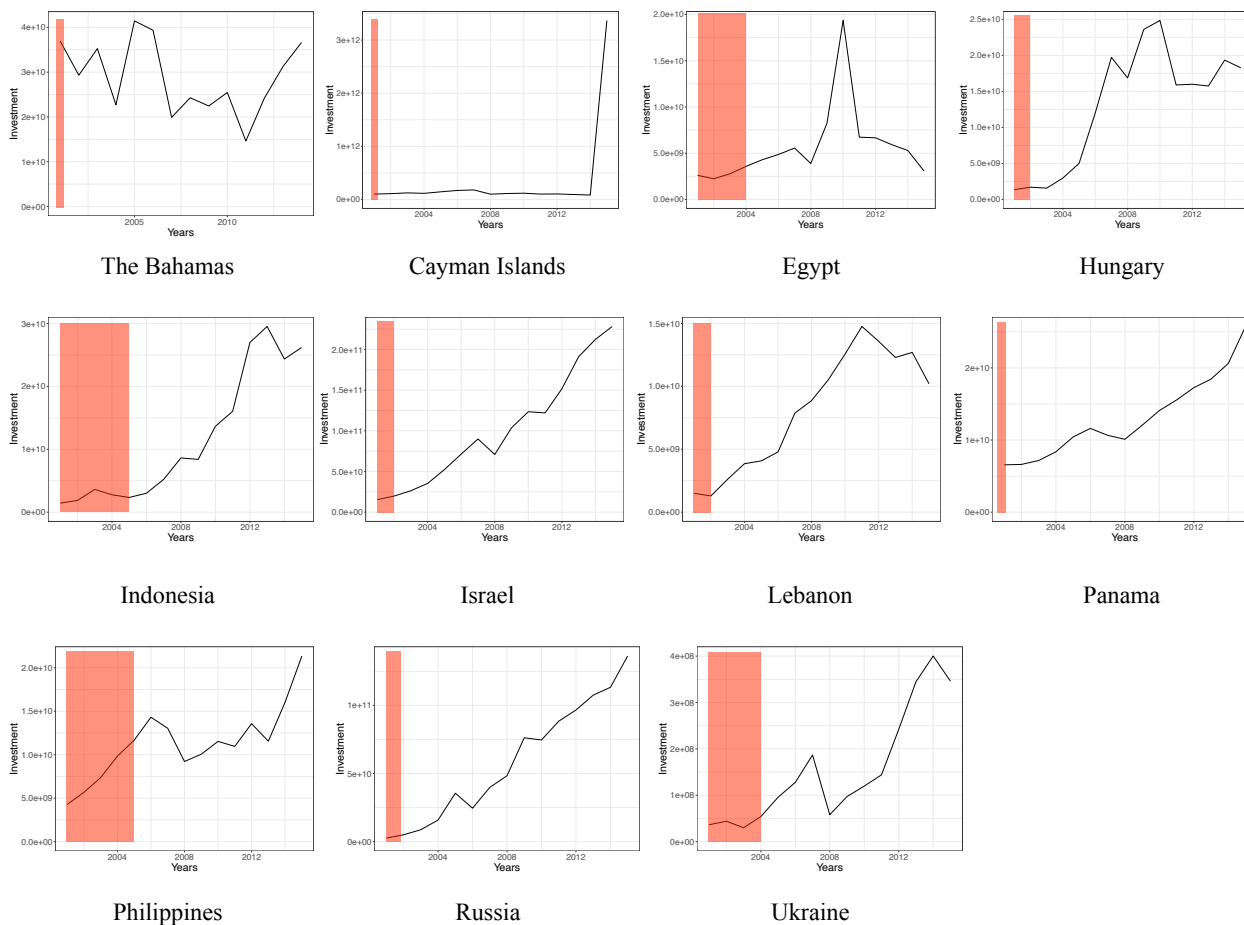
Notes: These graphs show the yearly investment (2001-2014) for each blacklisted country with available data from the IMF Coordinated Investment Portfolio Survey dataset. Shaded portions present time spent on the blacklist.

3.3.2 Major Money Laundering Cases

To test whether news of a money laundering case causes harm to a state's reputation, we 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.[60]

3.4 Covariates and Descriptive Statistics

3.4.1 FATF Blacklisting

We also include several covariates identified by the literature as important for predicting GDP per capita using the synthetic control method.[61] These predictors share information about the size of three major sectors of the economy – agriculture, trade, and services – as a percent of GDP.[62] We use yearly data (1990-2014) for the dependent variable and all covariates from the the World Bank's World Development Indicators dataset. We choose to analyze data starting from 1990 since there is a significant decrease in available data on both the dependent and independent variables before 1990.

Table 2 shows the means for the actual and synthetic countries across the predictors. These summary statistics confirm a close match between the actual and synthetic blacklisted countries across these variables. The breakdown of the weighted average for each country is also included in Appendix C, which shows that the majority of each synthetic control unit comes from three or fewer countries; this use of regularization within the algorithm helps to prevent overfitting.

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[60]Case-Ruchala and Nance 2020.

[61]Abadie and Gardeazabal 2003; Abadie, Diamond, and Hainmueller 2015.

[62]Trade includes the percent of GDP generated by both exports and imports.

Table 2: Predictor Means before FATF Blacklisting

	Agriculture		Trade		Services	
	Country	Synthetic	Country	Synthetic	Country	Synthetic
2000 Blacklist						
Bahamas	2.253	2.254	96.895	96.895	71.219	71.219
Dominica	13.730	13.730	97.655	97.655	60.386	60.386
Israel	1.554	2.015	61.865	61.902	63.956	63.955
Panama	6.739	6.777	143.642	143.648	67.798	67.797
St. Vincent & the Grenadines	9.453	9.453	105.036	105.036	60.445	60.445
Full Sample	15.777		81.803		50.179	
2001 Blacklist						
Egypt	16.132	16.132	49.261	49.262	47.786	47.786
Guatemala	24.318	24.316	43.951	43.962	55.849	55.846
Hungary	5.426	5.427	87.219	87.219	53.476	53.476
Nigeria	24.166	24.166	37.903	37.903	40.682	40.682
Full Sample	15.611		82.331			50.259

Notes: Means for the actual and synthetic controls units for each country during the pre-period for three covariates – the share of GDP (%) produced by agriculture, trade (imports and exports), and services. The full sample includes 165 control countries. The sample mean for countries listed in 2000 includes all control countries between 1990-1999, while the sample sample mean for countries listed in 2001 includes all control countries between 1990-2000.

Table 3: 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.

3.4.2 National Money Laundering Cases

We include one predictor in our model – GDP growth (as a percent) – using data from the World Bank World Development Indicators dataset.[63] We do not include additional predictors – such as a measure of trade volumes – because doing so would greatly restrict our sample of potential control countries due to missing data. Accordingly, we plan to rerun the analysis with additional predictors once this data becomes available for more countries in the sample. Table 3 displays the mean of the predictor and outcome for each synthetic and treated unit, showing close matches between the two.

3.5 Results

3.6 FATF Blacklisting

Figure 3 presents the main results of the analysis. These graphs show GDP per capita for the actual (solid line) and synthetic (dashed line) countries, with time spent on the blacklist denoted by the shaded portion of each graph. We find that three countries – the Bahamas,

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

Dominica, and Israel – show lower levels of GDP per capita in the period after blacklisting, while six other countries – Egypt, Guatemala, Hungary, Nigeria, Panama, and St. Vincent and the Grenadines – show little difference between the predicted and actual values. The differences for these listed countries are substantial, with the Bahamas showing an average 19% lower GDP per capita than predicted in the period after blacklisting, Dominica 10% lower, and Israel 4% lower. The effect is also long lasting: Israel's GDP per capita only converges with its synthetic counterpart after ten years, while the Bahamas' and Dominica's actual GDP per capita fail to reach predicted levels in the fourteen years after blacklisting.

We can also consider the results in terms of effect size. Figure 4 shows the effect size for each country – the difference between the actual and synthetic GDP per capita in dollars by year – on a common scale. From these graphs, we can clearly see that the largest divergence occurs for the Bahamas followed by Israel. Dominica also experienced a negative difference, though it was smaller in absolute terms than the other two. These plots also highlight that there is little divergence between the actual and synthetic GDP per capita at the time of blacklisting for the remaining countries in the sample.

3.6.1   A Mediating Variable: The Size of the Services Sector

What explains variation in outcomes across blacklisted countries? One possible explanation is that the makeup of a country's economy mediates the effect of FATF blacklisting. Specifically, countries whose economies are more dependent on services experience a greater loss as a result of blacklisting than countries whose economies are more dependent on agriculture or industry. This makes intuitive sense, since the services sector (and especially the financial services) is more vulnerable to changes in behavior by international investors than other sectors. Figure 5 plots the percent difference between the actual and synthetic GDP per capita in the period after blacklisting against the size of the services sector (as a percent of GDP); this relationship is approximately linear.

This insight can also help explain why states reacted differently to blacklisting. Because

Figure 3: Synthetic vs. Actual GDP per capita for Blacklisted Countries
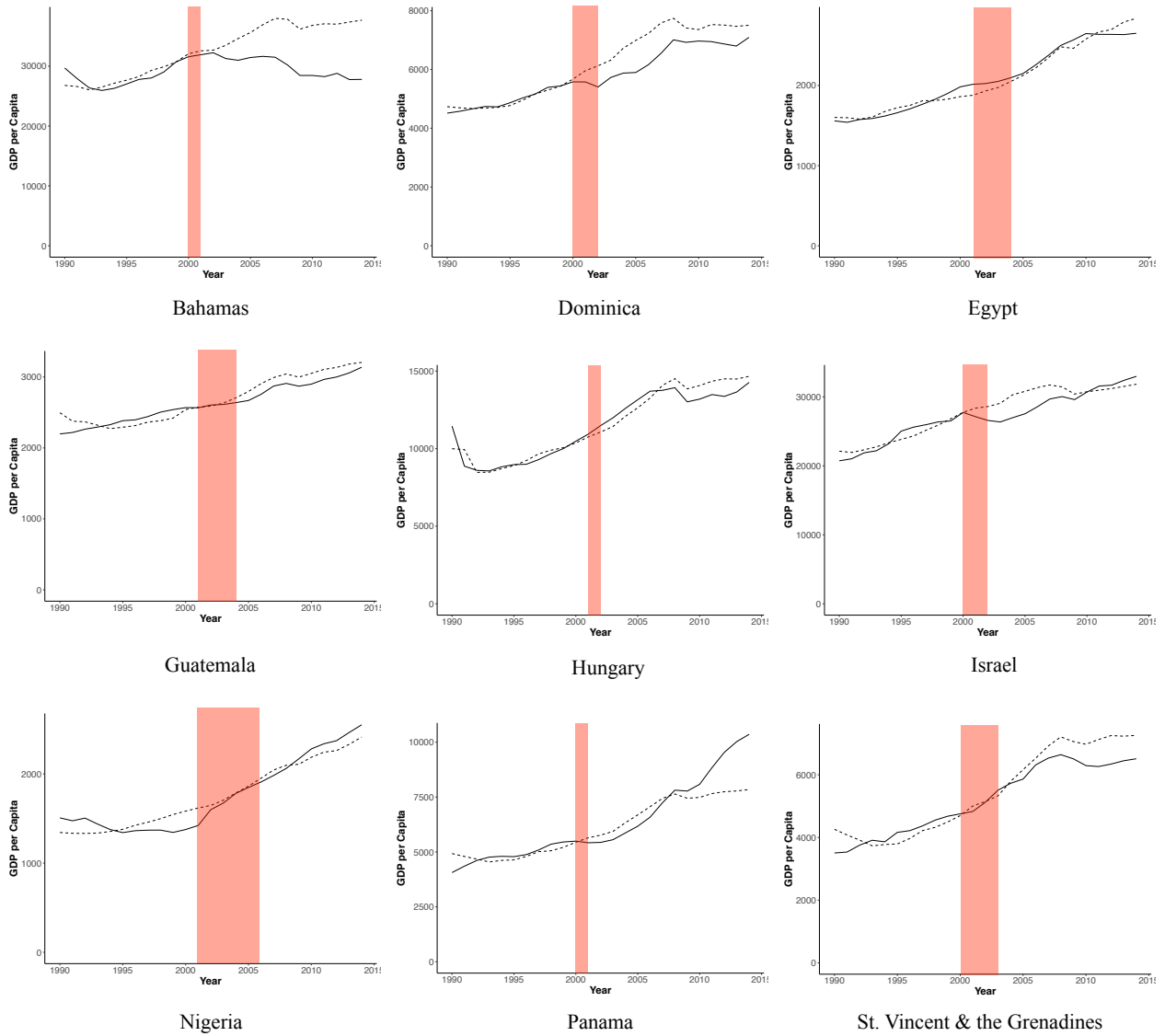
Notes: Synthetic (dashed line) versus actual (solid line) GDP per capita for blacklisted countries (1990-2014). Shaded rectangles denote the years a country was blacklisted.

Figure 4: Effect Size for Blacklisted Countries
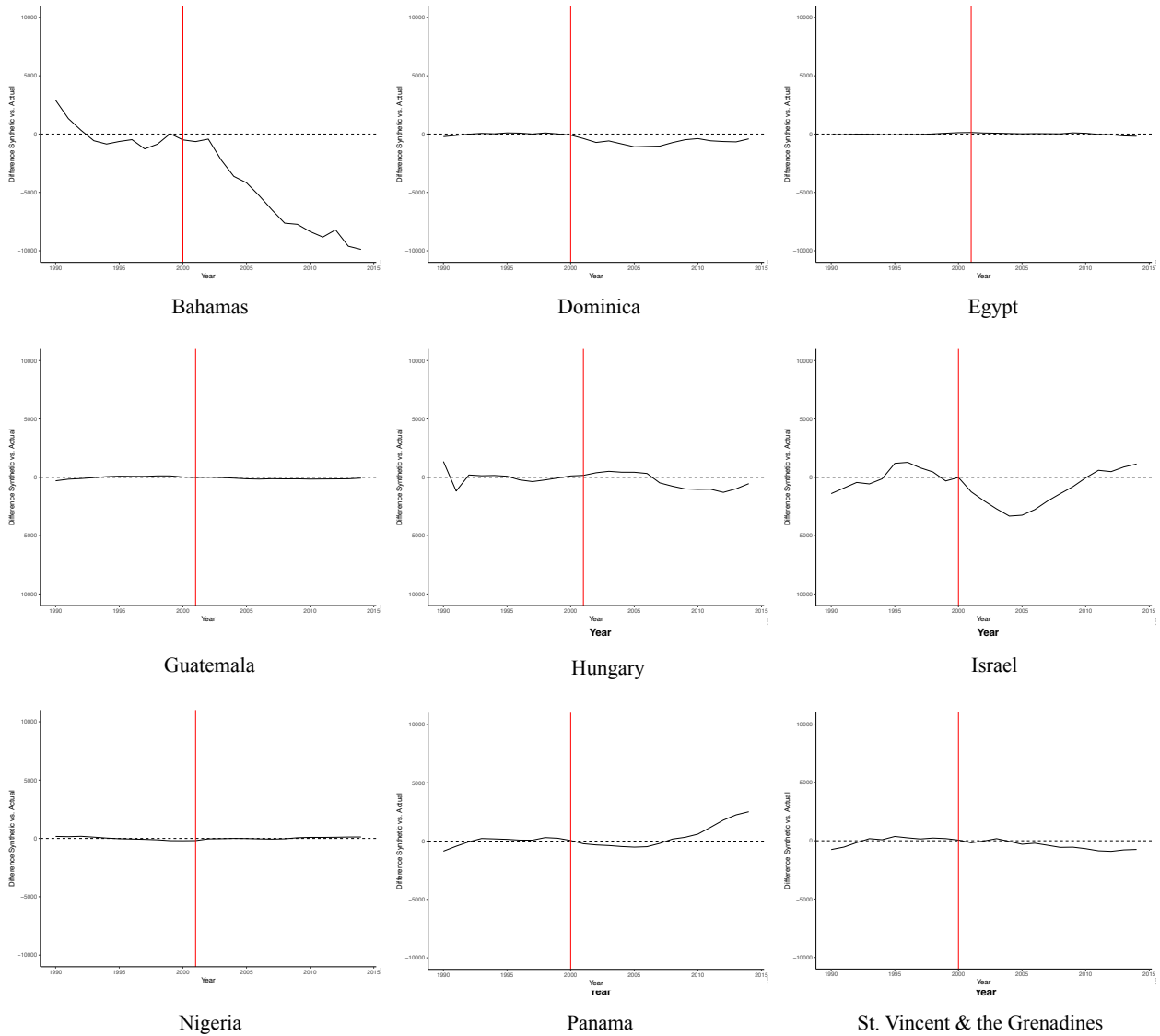
Notes: Plots show the effect size – the difference between the actual and synthetic GDP per capita in dollars – for each blacklisted country. Vertical intercepts denote the year a country was blacklisted.

Figure 5: Synthetic vs. Actual GDP for Blacklisted Countries
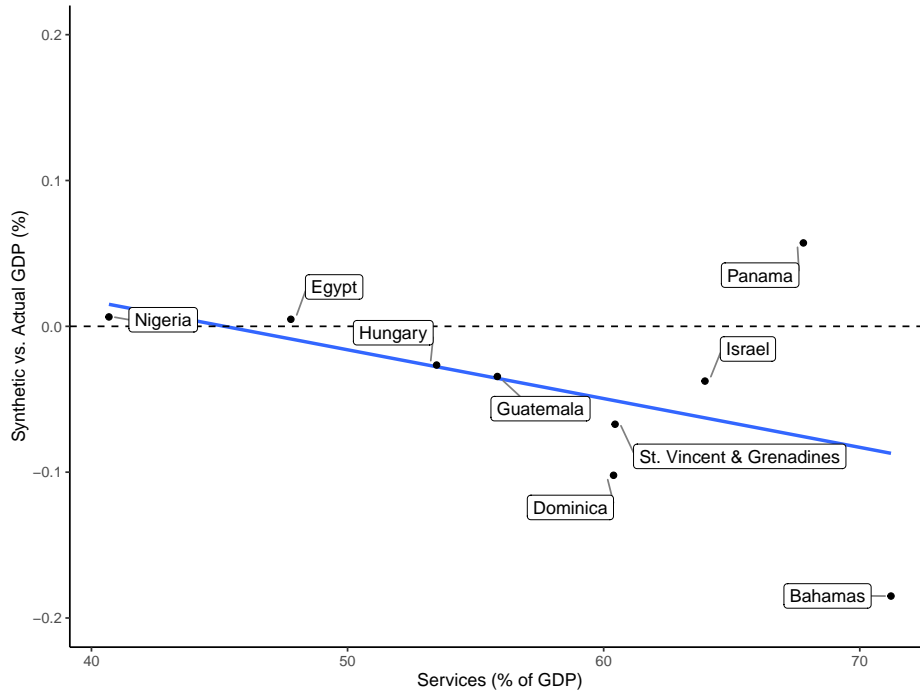
some countries experienced greater harm from blacklisting, they moved quickly to be removed from the list: the Bahamas, Israel, and Dominica acted quickly and were among the first removed from the blacklist, while other countries like Egypt and Nigeria moved more slowly and consequently spent longer on the blacklist. Thus, while we hesitate to draw firm conclusions given the small sample size, we propose that countries with large service sectors experience more economic harm as a result of FATF blacklisting as a working hypothesis.

3.7 National Money Laundering Cases

Figure 12, Figure 13, and Figure 14 display our 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
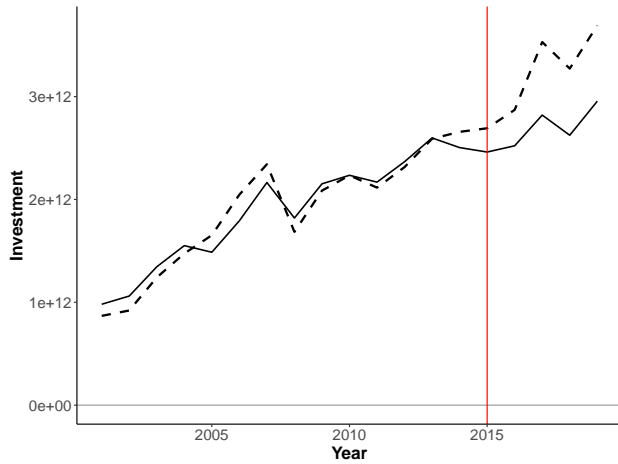
Figure 6: Switzerland Investment Growth

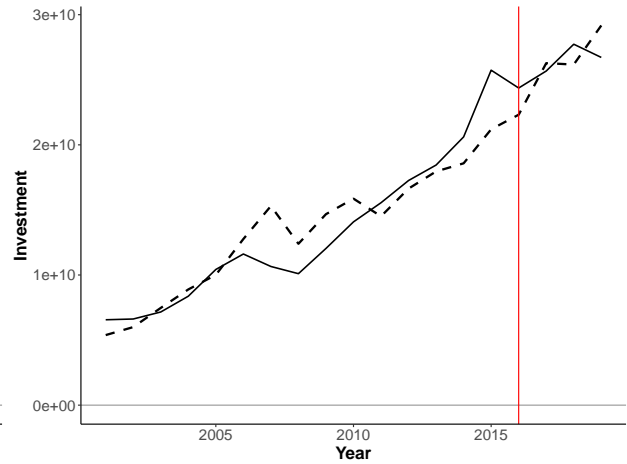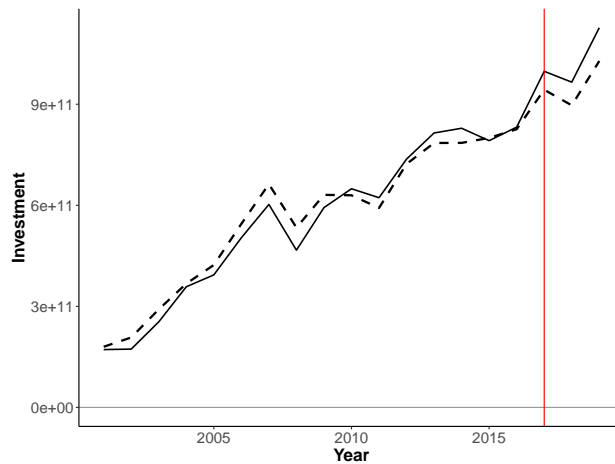Figure 7: Panama Investment Growth

Figure 8: 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.

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, we do not see a significant divergence between the predicted and actual outcome following news of the Panama Papers.

As a robustness check, we also estimate synthetic and actual GDP growth following news of a major money laundering case.[64] We measure GDP growth (as a percent) using quarterly data from the Organisation for Economic Co-operation and Development (OECD) for Switzerland and Denmark and yearly data from the World Bank World Indicators Dataset for Panama. Figure 9, Figure 10, and Figure 11 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 our first analysis, we 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. We 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.

Limitations

Our research design presents several potential limitations we seek to address here. One po-

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[64]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)).
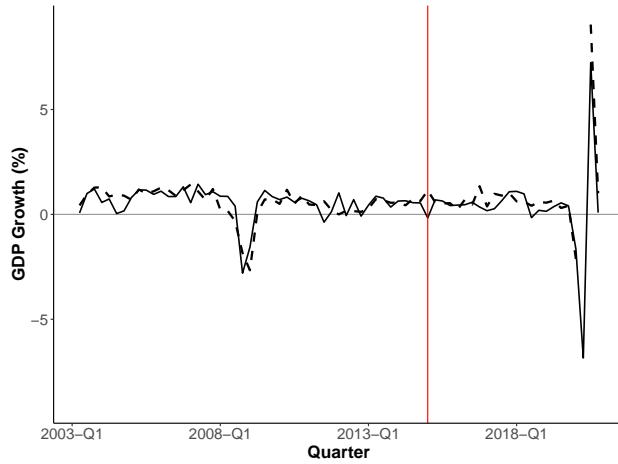
Figure 9: Switzerland GDP Growth
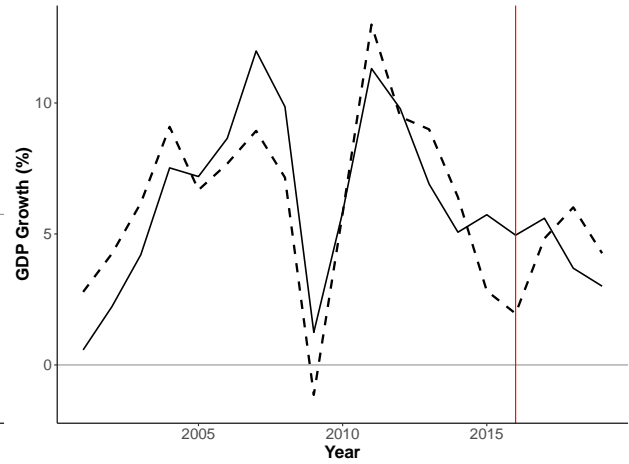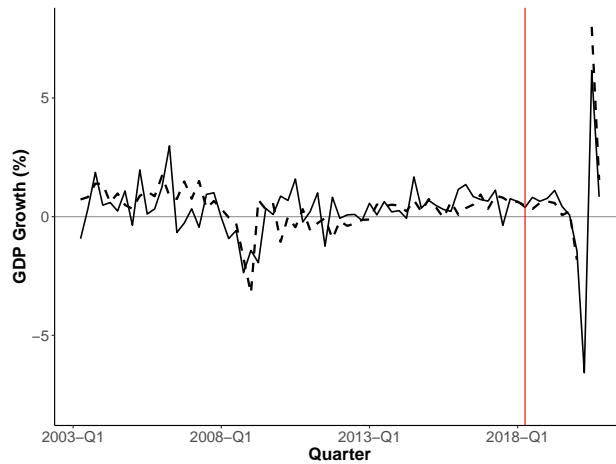
Figure 10: Panama GDP Growth

Figure 11: 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.

tential concern centers on whether the cases we have chosen to test for reputational harm among states are appropriate ones to test this theory. Although our findings can be strengthened through additional testing, we 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, we 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, we 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. We 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.[65] Thus, we argue that it is unlikely that transnational economic actors had already "priced in" money laundering risk for these countries.

4 Reputational Harm for Financial Institutions

4.1 Event Study Method

The event studies method is used widely in the finance literature to test for abnormal security returns following news of an event[66] and relies on the fact that a security's average returns can be estimated from past returns; this allows researchers to estimate the change in a security's

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

[66]For example, this method is widely used to measure reactions to earnings announcements and to measure price changes following news of new regulations (Kothari and Warner 2007).

price that is associated with a particular event. We use this method to test whether financial institutions' securities experience abnormal returns in the period after news of involvement in a money laundering investigation

We 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. 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 we wish to test for abnormal returns in some period after news of an event $(T \in [t_1, t_2])$, we must account for multiple time periods. Accordingly, we 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, we take the cumulative average residual divided by

the variance, written as:

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

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

We calculate a confidence interval for each estimate using bootstrapping.[67] We draw 10,000 samples from the data with replacement, and then calculate the cumulative average residual for each. We then use the distribution of these 10,000 estimates to calculate 95% confidence intervals.

We 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.[68] Thus, the return for a security (i) is given by

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

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:

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

4.2   Data

To enable analysis of reputational harm for financial institutions, we 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.[69] Research assistants reviewed articles from each newspaper, creating cases based on

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[67]DiCiccio, Efron, et al. 1996.

[68]Lefebvre 2007.

[69]We 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.

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.
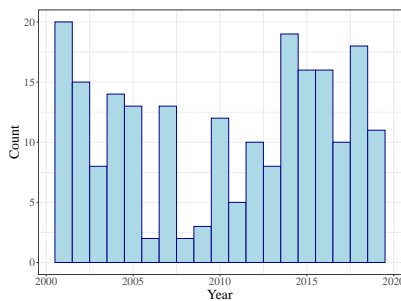
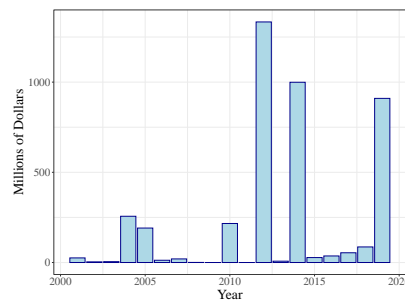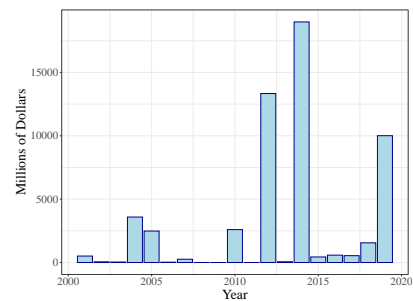| Figure 12: Total Cases	Figure 13: Average Fine	Figure 14: Total Fines

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).

This dataset provides new insight into temporal and geographic trends for money laundering cases. Figure 12 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 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 13 and Figure 14), 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

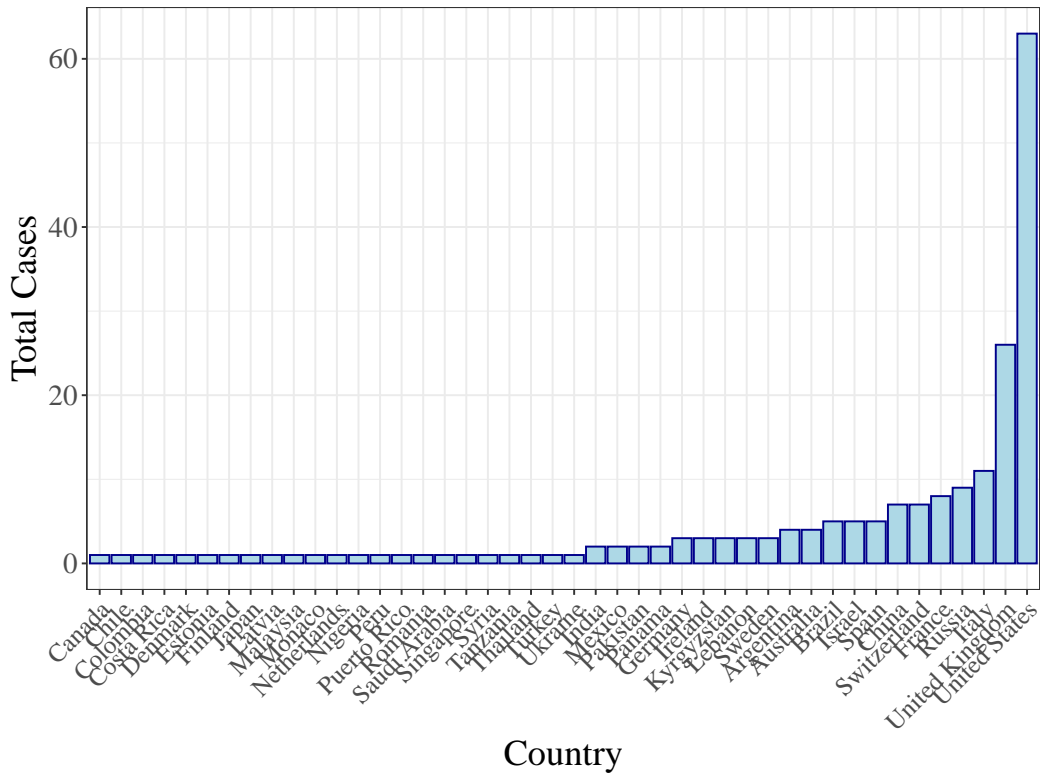Figure 15: Histogram of Cases by Location of Intermediary

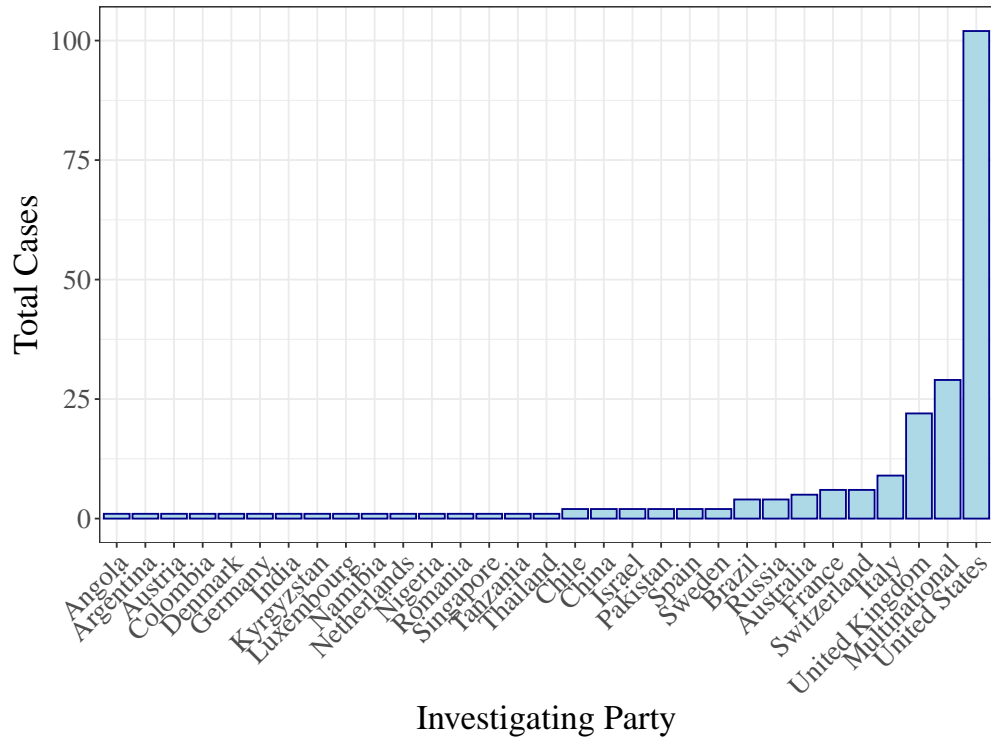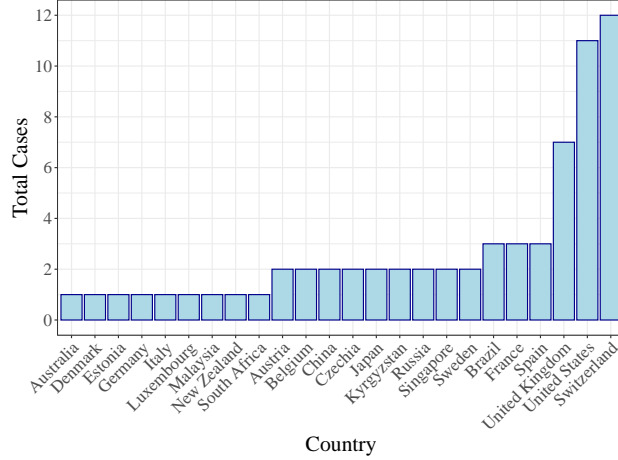Figure 16: Histogram of Cases by Investigating Party

Figure 17: Histogram of Multinational Cases by Investigating Country

the United Kingdom (26), Italy (11), Russia (9), France (8), Switzerland, and China (both with 7) (Figure 15). 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 16). Figure 17 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 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.

Using this dataset, we 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, we consider the most recent case in our analysis. Accordingly, we are 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.

4.2.1 Dependent Variable

We test for abnormal returns following news of a money laundering investigation using a sample of 34 securities from financial institutions. We 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 typically have lower dollar values. In our sample, a higher proportion of non-U.S. financial institutions are listed on OTC Markets than for the other two.

4.2.2 Descriptive Statistics

Table 4: 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 4 presents summary statistics for the sample; we also include a full list of all financial institutions and descriptive statistics for each security in Appendix D. In addition,
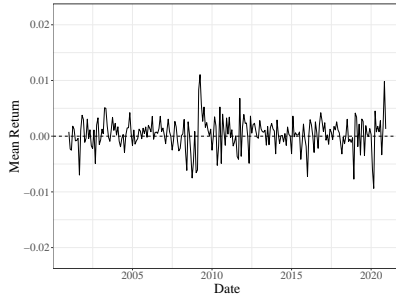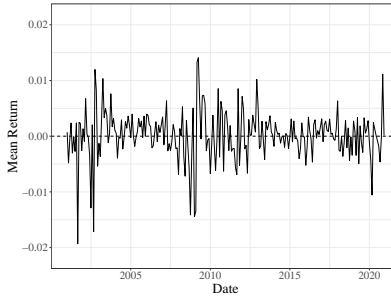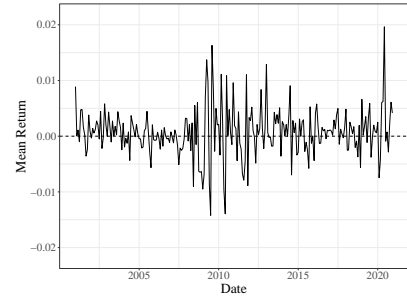
Figure 18: NYSE†	Figure 19: OTC Markets	Figure 20: Nasdaq

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

Figure 18, Figure 19, and Figure 20 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 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.

4.3 Results

We begin by estimating a mean adjusted model for the full sample. Figure 22 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, we cannot reject the null hypothesis that there are no abnormal returns in the period after news of a money laundering investigation.

We also provide estimates for two subsamples of the data: securities on the New York Stock Exchange and securities on OTC Markets.[70] For securities on the New York Stock Exchange, we 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 23 for event

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

Figure 21: Full Sample, Mean Adjusted Model
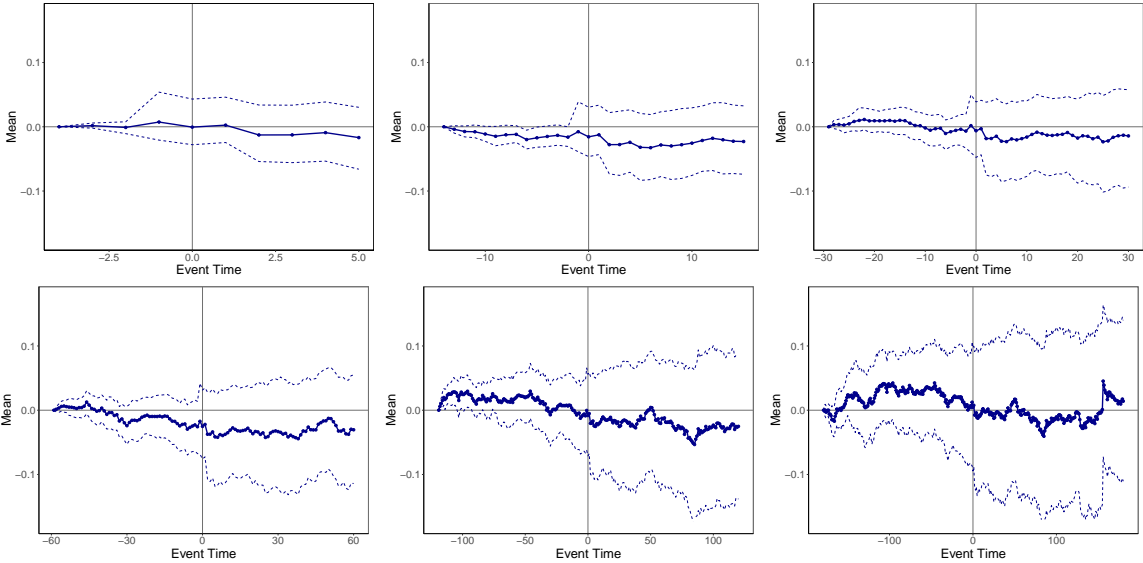
Notes: Graphs show security returns for financial institutions following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using a mean adjusted model. The solid lines denote the estimates while the dashed lines denote the 95% confidence intervals for each.

Figure 22: Full Sample, Mean Adjusted Model
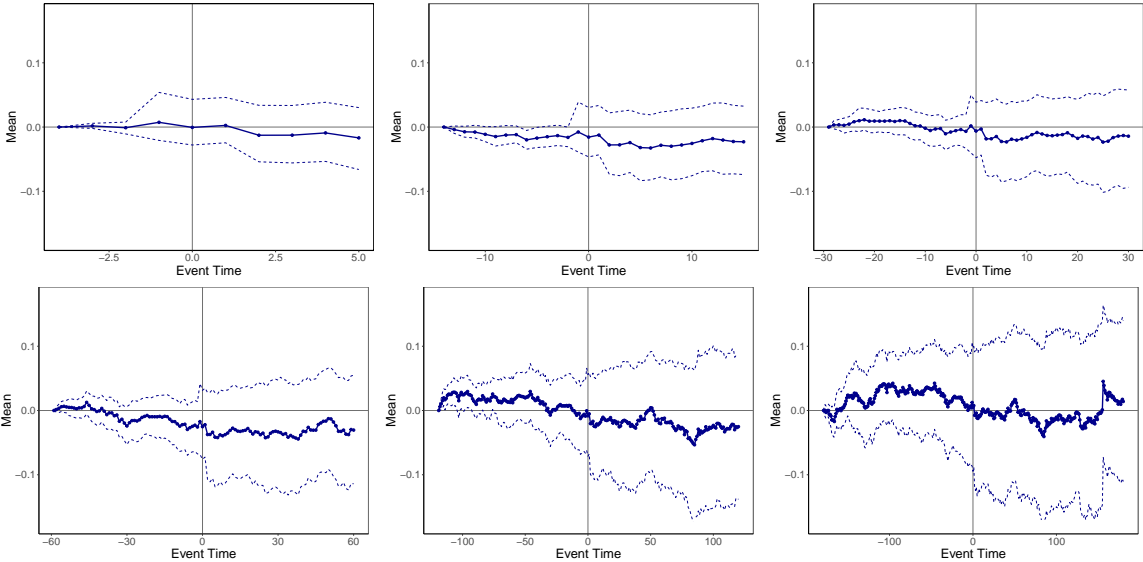
Notes: Graphs show security returns for financial institutions following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using a mean adjusted model. The solid lines denote the estimates while the dashed lines denote the 95% confidence intervals for each.

Figure 23: New York Stock Exchange, Market Model

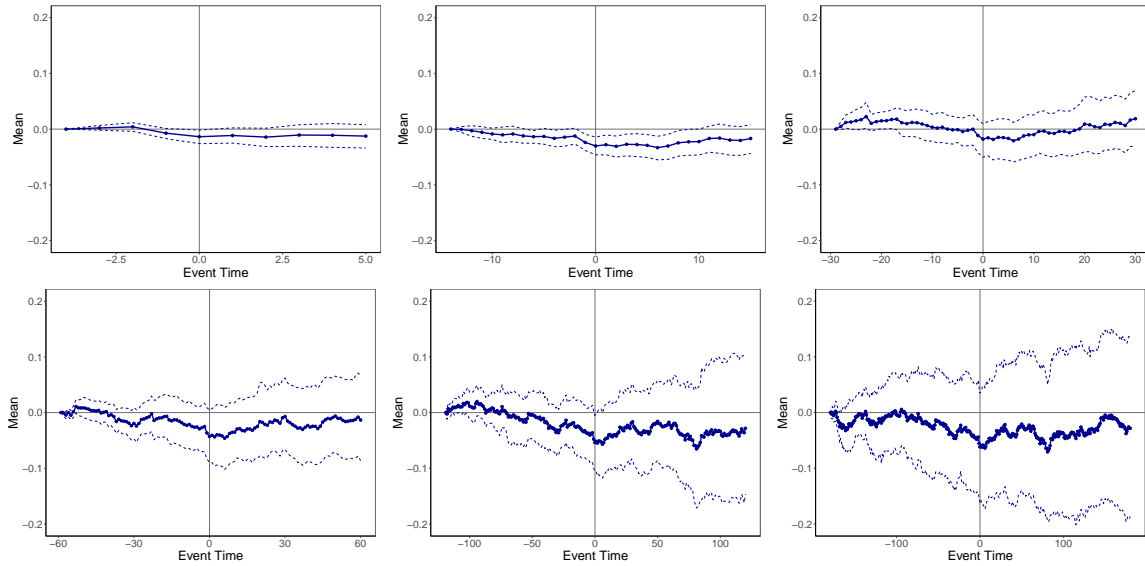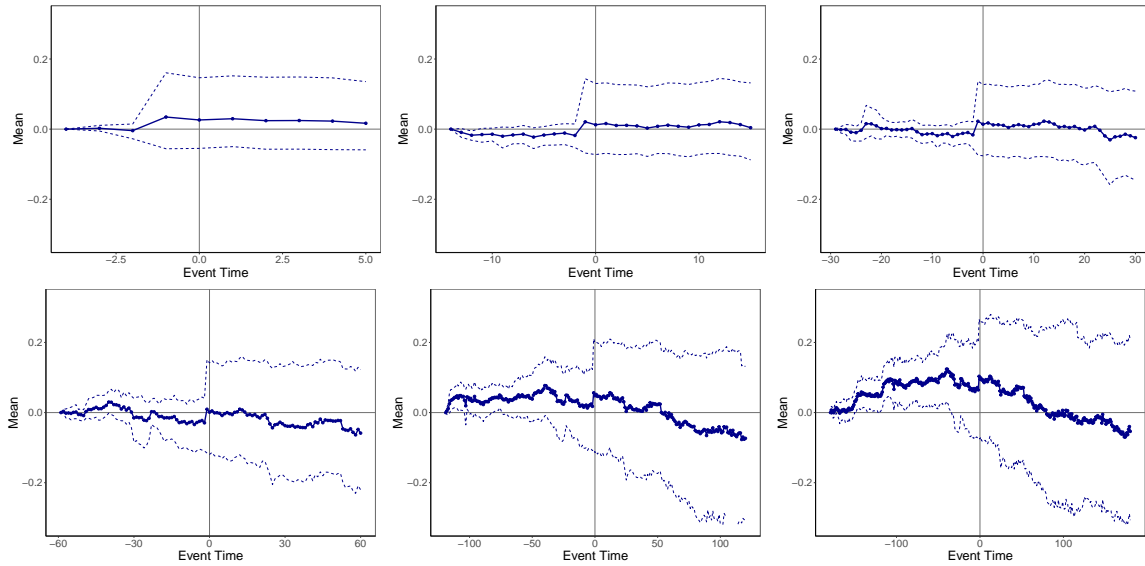*Notes*: Graphs show security returns for financial institutions listed on the New York Stock Exchange following news of involvement in a money laundering case for event windows of 5, 15, 30, 60, 120, and 180 days using the market model. The solid lines denote the estimates while the dashed lines denote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

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, we do not see a significant negative effect following news of a money 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, we do not consistently observe this effect for other event windows.

Lastly, we estimate the mean adjusted model for securities listed on OTC Markets (Figure 24). As with estimates based on the full sample, we do not find evidence of abnormal returns in the period after news of a major money laundering case. Accordingly, we 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, we do not find evidence that news of involvement in a money laundering case

Figure 24: 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.

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, our 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.

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, we 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.

5 Conclusion

Our findings suggest that countries *do not* experience a decrease in economic outcomes following direct evidence of involvement in money laundering (measured by national money laundering cases and investigations of financial institutions), but, by contrast, states experienced economic losses as the result of FATF blacklisting, which we argue functioned primarily as a *political* process. We draw several broad conclusions from this research.

First, our research suggests that international pressure played an important role in countries' adoption of anti-money laundering laws. Although many countries adopted FATF-style standards voluntarily – either through socialization or as part of a bid for legitimacy on the international stage – for a handful of reluctant states, international economic pressure channeled by the FATF proved instrumental in pushing them to adopt new standards. However, we argue the FATF has struggled to effectively monitor countries' enforcement of these measures, which can help explain widespread lapses in the enforcement of anti-money laundering laws uncovered during the last decade. We argue this failure to effectively monitor countries compliance with FATF standards through an assessment of enforcement has severely limited the FATF's ability to push for a high level of effectiveness in countries' fight against money laundering internationally.

Second, our research supports the need for a reframing of appeals to combat money laundering around a commitment to mitigating harmful predicate crimes rather than safeguarding countries' financial integrity. Although international efforts to promote anti-money laundering enforcement are often framed as a way to protect against financial harm including reputational harm,[71] 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, we suggest that international efforts to combat money laundering may be better presented in terms of an effort to prevent predicate crimes rather than an

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[71]See for example Lewis (2019).

effort to protect against financial harm.

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A   FATF Member Countries

Table 5: New Members Admitted to the FATF

Plenary Year	New Members
1989	Canada, France, Germany, Italy, Japan, United Kingdom, United States, European Commission, Australia, Austria, Belgium Luxembourg, Netherlands, Spain, Sweden, Switzerland
1990-91	Denmark, Finland, Greece, Ireland, New Zealand, Norway, Portugal, Turkey, Hong Kong, and the Gulf Cooperation Council
1991-92	Iceland and Singapore
1999-00	Argentina, Brazil, and Mexico
2002-03	South Africa and the Russian Federation
2006-07	People's Republic of China
2009-10	Korea and India
2015-16	Malaysia
2018-19	Israel

Source: Financial Action Task Force 2019, p. 69.

B   FATF Blacklisting Recommendations

B.1   Counter-measures designed to protect economies against money of unlawful origin

49. It would of course be ideal if all the countries and territories identified as non-cooperative were to adopt and implement effectively laws and regulations in accordance with the forty FATF Recommendations or at least to abolish those laws and regulations that hamper the international fight against money laundering. However, such progress is most likely to be slow, and in the short and medium term, certain of the countries and territories identified may decide to maintain their non-cooperative rules or practices.

50. FATF members could therefore develop a new type of counter-measures to better protect their financial systems and economies against money of unlawful origin. Collective and co-ordinated action by FATF members is clearly most desirable and should be pursued whenever possible. However, individual members could ultimately make decisions on whether to implement counter-measures on an independent basis. The following counter-measures should be applied according to the gravity of the identified deficiencies.

(i) *Customer identification obligations for financial institutions in FATF members with respect to financial transactions carried out with or by individuals or legal entities whose account is in a "non-cooperative jurisdiction"*

51. In order to make it difficult for individuals and legal entities established or registered in non-cooperative jurisdictions to enter into the financial systems of FATF members, the latter should make sure that financial institutions within their jurisdiction fully satisfy the obligation to identify their clients before starting business relations. It should be forbidden to open an account if the applicant fails to supply really valid documentation enabling the

financial institution to know without ambiguity the true identity of the owner/beneficial owner of such an account.

(ii) *Specific requirements for financial institutions in FATF members to pay special attention to or to report financial transactions conducted with individuals or legal entities having their account at a financial institution established in a "non-cooperative jurisdiction"*

52. Additional counter-measures could consist in requiring financial institutions to pay special attention to any transaction having a link to a country or territory previously identified as non-cooperative. It could also consist in requiring financial institutions to report systematically transactions to the financial intelligence unit or any competent body above a given amount, carried out by their clients with individuals or legal entities established or having their bank account at a financial institution established in countries or territories previously identified as non-cooperative.

53. These requirements should also make it possible to step up the vigilance of financial institutions and to enrich considerably the information of/to financial intelligence units on transactions carried out with the noncooperative jurisdictions. They should also better protect the economies and financial systems of FATF members and, lastly, they will put more pressure on the jurisdictions concerned, capable of convincing them to adopt the necessary reforms and to co-operate better in the fight against money laundering.

(iii) *Conditioning, restricting, targeting or even prohibiting financial transactions with non-cooperative jurisdictions*

54. FATF members should also consider determining whether it is desirable and feasible to condition, restrict, target or even prohibit financial transactions with such jurisdictions.

Such measures could serve as an ultimate recourse should a country or territory have decided to preserve laws or practices that are particularly damaging for the fight against money laundering. In the event that there was no legal basis for taking these measures, FATF members should consider adopting the relevant legislation. FATF members should also examine ways to prevent financial institutions located in identified non-cooperating countries or territories from using facilities (for example, information technology facilities) located in the FATF members' territory.

`https://www.fatf-gafi.org/media/fatf/documents/reports/Initial%20Report%20on%20NCCTs%2002_2000.pdf`

Table 6: Control Unit Weighting

Bahamas		Dominica		Egypt	
0.347	United States	0.442	Samoa	0.404	Guinea
0.206	Slovak Republic	0.061	Djibouti	0.214	Peru
0.145	Hong Kong	0.053	Equatorial Guinea	0.096	South Sudan
0.145	Bermuda	0.024	Cuba	0.090	India
0.027	Aruba	0.007	Jordan	0.012	Brazil

Guatemala		Hungary		Israel	
0.581	Comoros	0.287	Slovak Republic	0.300	United States
0.103	Cuba	0.271	South Africa	0.259	Puerto Rico
0.064	The Gambia	0.064	Equatorial Guinea	0.254	South Africa
0.062	Bangladesh	0.024	Djibouti	0.077	United Kingdom
0.032	Samoa	0.007	Botswana	0.035	Hong Kong

Nigeria		Panama		VCT[72]	
0.606	India	0.326	Cuba	0.377	Cuba
0.056	South Sudan	0.285	Djibouti	0.159	Djibouti
0.036	Bangladesh	0.082	Samoa	0.076	Equatorial Guinea
0.023	Sierra Leone	0.043	Equatorial Guinea	0.013	Cabo Verde
0.018	Burundi	0.030	Hong Kong	0.010	South Sudan

Notes: Full sample includes 165 countries.

C   Blacklisting Control Unit Weighting

D Securities Descriptive Statistics

Table 7: New York Stock Exchange Descriptive Statistics

	N	Mean	St. Dev.	Min	Max
American Express Company	5,030	0.0004	0.022	−0.196	0.192
Bank of America Corporation	5,140	0.001	0.030	−0.314	0.371
Banco Bilbao Vizcaya Argentaria	5,140	0.0001	0.024	−0.221	0.245
Barclays	5,140	0.0003	0.032	−0.451	0.753
Bank of New York	5,030	0.0002	0.023	−0.198	0.319
Citibank	5,030	0.0001	0.032	−0.429	0.483
Credit Suisse	5,030	0.0001	0.026	−0.220	0.321
Deutsche Bank	5,030	−0.00001	0.028	−0.246	0.241
Goldman Sachs Group	5,030	0.0004	0.023	−0.269	0.344
HDFC Bank	5,002	0.001	0.023	−0.172	0.200
HSBC Holdings plc	5,030	−0.00003	0.018	−0.219	0.154
ING Group	5,030	0.0002	0.031	−0.295	0.382
JP Morgan Chase	5,030	0.0005	0.024	−0.196	0.287
Lloyds Bank	4,805	−0.0001	0.031	−0.586	0.395
Mitsubishi UFJ Financial Group	4,968	0.0001	0.022	−0.188	0.218
NatWest Group	3,323	−0.0004	0.037	−0.720	0.292
Oppenheimer Holdings	5,030	0.0004	0.026	−0.236	0.283
U.S. Bancorp	5,030	0.0004	0.022	−0.216	0.309
Westpac	5,030	0.0003	0.019	−0.144	0.168

Table 8: Over the Counter (OTC) Markets Descriptive Statistics

	N	Mean	St. Dev.	Min	Max
Agricultural Bank of China	2,560	0.00002	0.020	−0.119	0.129
BNP Paribas	4,424	0.0004	0.026	−0.216	0.203
CryoBanks International Inc.	5,140	0.002	0.062	−0.400	0.594
Commonwealth Bank of Australia	2,705	0.0003	0.019	−0.164	0.121
Commerzbank	5,030	−0.0002	0.034	−0.382	0.521
Danske Bank	2,766	0.0001	0.021	−0.120	0.115
Industrial & Commercial Bank of China	3,281	0.0004	0.030	−0.167	0.250
Julius Baer Group	2,690	0.0004	0.020	−0.208	0.124
Handelsbanken	2,756	0.0002	0.019	−0.151	0.143
Swedbank	3,146	0.0004	0.030	−0.315	0.292
Halkbank	2,756	0.0001	0.055	−0.510	2.333

Table 9: Nasdaq Exchange Descriptive Statistics

	N	Mean	St. Dev.	Min	Max
Banco Popular de Puerto Rico	5,030	0.0002	0.028	−0.212	0.387
Broadway National Bank	5,030	0.001	0.058	−0.382	1.022
Carlyle Group	2,179	0.0004	0.023	−0.143	0.201
MoneyGram International	4,153	0.0004	0.049	−0.522	1.424