MONEY LAUNDERING AND CORRESPONDENT BANKING: EVIDENCE FROM THE DEMOCRATIC REPUBLIC OF THE CONGO

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NOVEMBER 2026

ANTI CORRUPTION DATA COLLECTIVE

ANTI-CORRUPTION DATA COLLECTIVE **WORKING PAPER #2**





This research is part of the Governance & Integrity Anti-Corruption Evidence (GI ACE) programme which is hosted by the Centre for the Study of Corruption, University of Sussex and funded by the UK government's Foreign, Commonwealth & Development Office (FCDO) through its Global Research and Technology Development portfolio. GI ACE generates actionable evidence that policymakers, practitioners and advocates can use to design and implement more effective anti-corruption initiatives. The views expressed here do not necessarily reflect the UK Government's official policies.

Money Laundering and Correspondent Banking: Evidence from the Democratic Republic of the Congo

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November 20, 2026

Abstract

Experts estimate that money laundering exceeds US$2 trillion annually, undermining economies and public coffers worldwide. In response to regulatory and political pressures, many international banks have begun "de-risking," as in severing ties with clients, sectors, or entire countries considered too risky to monitor. Yet we have little evidence about whether these measures actually curb illicit finance or merely push it into less transparent channels. This paper provides the first empirical test of de-risking using data from the Congo Hold-Up, the largest financial leak in African history, comprising over 3.5 million documents from BGFIBank. Drawing on bank statements, contracts, and correspondence from President Joseph Kabila's final term, we first establish several indicators of clients especially likely to execute suspicious foreign transactions. After establishing how de-risking dramatically changed the composition of correspondent banks serving BGFI Bank DRC, we then find no evidence that these changes reduced the volume or number of transactions by these suspicious clients. These results suggest that de-risking may do little to protect the overall international financial system from illicit financial flows.

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1 Introduction

Despite long running reform efforts, illicit financial flows (IFFs) remain a persistent threat to the integrity of the global financial system. The most widely-cited estimates - more than a decade old - are from the *United Nations Office on Drugs and Crime* suggests that about US$ 1.6 trillion or 2.7% of global GDP were laundered in the global economy in 2009 (UNODC, 2011). More recent analysis produced by UNCTAD indicates that developing countries are hit the hardest by illicit financial flows, with tens of billions lost annually from trade misinvoicing alone.[1] However, the true extent of money laundering is unknown, and is likely to have grown considerably in recent years due to growth in cross-border financial flows and the use of digital currencies.

Governments and international institutions have undertaken far-reaching reforms to close the regulatory loopholes that enable money laundering and tax evasion. New global anti–money laundering (AML) and counter-terrorist financing (CFT) standards require that financial institutions conduct deep due diligence on their customers and report suspicious transactions to financial intelligence units tasked with combatting IFFs (FATF, 2025). The creation of beneficial ownership registries and databases of political exposed persons have facilitated these investigative efforts by bringing some much needed transparency to the ownership and control of legal entities and trusts, long exploited to conceal the origins of illicit funds. Tax information is also being more widely exchanged, whether through the OECD's Common Reporting Standard or country-by-country reporting for multinational enterprises.

Yet despite this wide-ranging reform agenda, enforcement remains uneven and significant gaps persist, particularly in jurisdictions with limited regulatory capacity. Fearful of non-compliance penalties, sanctions exposure, and even the high compliance costs of serving problematic jurisdictions, some financial actors have instead begun "de-risking" their engagement in these places (Erbenova et al., 2016; Rice et al., 2020). De-risking involves the withdrawal of financial services, most often terminating the access of smaller banks to the international financial system through correspondent banking relationships. And while de-risking, especially of banks in less developed economies, has become quite common over the last two decades, this practice of correspondent banks severing ties has been chronically under-researched in the international political economy discourse. Indeed, there has been little empirical work unpacking how illicit actors respond to the closure of formal corridors for moving money across borders. Some experts also fear that de-

[1] UNCTAD. "First-ever official data on illicit financial flows now available." June 8, 2023

risking will reduce overall transparency by compelling domestic banks to operate in unregulated markets.

In this paper, we offer one of the first empirical investigations of de-risking by exploiting the largest leak of financial data from Africa: over 3.5 million documents from BGFIBank, a multinational conglomerate with a subsidiary (BGFIBank-DRC) operating in the Democratic Republic of Congo (DRC). Initially owned in part by former President Kabila's sister, BGFIBank DRC served as a conduit both for bribes to enrich the Kabila regime and a clearinghouse for payments across the economy. The leaked data (which includes bank statements, emails, contracts, bills, corporate records, and the details of millions of banking transactions) provides visibility into one of the most politically connected banks in DRC (and 7th largest by volume of assets).

Using these data, we establish three sets of findings. First, we use internal deposit records to define two distinct indicators of suspicious foreign transaction activity. To do this, we first comb investigative reporting and internal bank statements to construct a red flag for any firms allegedly engaging in money laundering and/or retaining close ties to the Kabila regime. We then draw on leaked transactions to measure the extent to which each corporate client at BGFI Bank DRC received deposits in cash (US dollars and francs). Although the DRC economy was heavily dependent in cash during the analysis period, we demonstrate stark differences in those banking clients which regularly received substantial cash deposits and those that received money from a more diverse set of inflows (such as wires, bank transfers, etc.). We find that companies that make large cash deposits are significantly more likely to execute large foreign wires in the following month, a pattern not observed with other modes of income (e.g. domestic wires). Moreover, in aggregate, cash-dependent clients move more money overseas. This measure of cash reliance emerges as additional red flag for identifying clients more likely to be engaging in suspicious financial transactions with the rest of the world.

Second, the paper establishes that in 2016, two large international correspondent banks ended their relationships with BGFIBank DRC. Using SWIFT records, we observe a sharp change in the mix of correspondent banks that settled external wires (foreign and domestic) for BGFI Bank DRC: Commerzbank and FIM Bank all but cease to facilitate transactions, replaced almost entirely by BGFI Bank International (France) and BMCE Bank (Morocco). Though no public reason was offered, we trace this "de-risking" decision using internal emails and investigative reporting to compliance concerns over a number of anomalous foreign wires coming into the bank. We also conduct a variety of analyses showing that this shift in banking relationships did not materially

change the cost of executing wires.

Finally, we investigate whether this policy change impacted the financial activity of BGFI Bank DRC clients, in particular those flagged as being more likely to participate in suspicious activity. Using both descriptive analysis and a difference-in-differences approach, we find no evidence that de-risking affected the volume or number of transactions among either more or less suspicious clients which had open accounts with BGFI Bank DRC prior to 2016. At a minimum, de-risking appears to have had limited behavioral effects, implying that this type of measure may do little to protect the overall international financial system from illicit financial flows.

We make several contributions to the empirical literature on money laundering and international finance. First, we are are able to empirically measure a significant risk indicator for trade-based money laundering as discussed by the Financial Action Task force, by measuring the tendency for cash-dependent clients to quickly funnel money offshore (Financial Action Task Force and Egmont Group of Financial Intelligence Units, 2021). Second, we contribute to a growing literature on the effectiveness of enhanced AML regulation (Bomare and Herry, 2024; Gara et al., 2024; Colella et al., 2025). Colella et al. (2025) study the review of Caribbean islands by the FATF-style regional body CFATF, arguing this induced additional compliance in these jurisdictions. They find that business activity increased in US countries with pre-existing links to those jurisdictions, arguing that money launderers substituted into using domestic companies instead. Agarwal et al. (2025) show that the price premium associated with purchases of Singaporean real estate with connections to offshore shell companies dissipated after AML rules were extended to real estate agents. Following a literature that occasionally demonstrates that AML regulations can backfire or have unintended consequences (Collin et al., 2015), we demonstrate that the AML-regulatory-driven de-risking decisions of a correspondent bank did not ultimately affect the ability of suspicious clients to move money offshore.

Third, our paper provides new evidence in the literature on the costs of AML regulation. Recent work has shown that the implementation of AML rules by banks can hamper lending or favor larger financial institutions (Slutzky et al., 2020; Agca et al., 2023). Other work has shown that the severing of correspondent banking access can have deleterious effects on the ability of firms to export and grow (Borchert et al., 2024). By contrast, we show that the de-risking episode appeared to have no negative significant impact on the ability of the bank to operate or its clients to move money offshore.

2 Background: correspondent banking, anti-money laundering policy and de-risking

2.1 The role of correspondent banking in cross-border transactions

Correspondent banking is one of the most important pillars of the international financial system: One bank (the correspondent bank) provides a debiting or crediting account and associated services to another bank (the respondent bank) through an interbank agreement. This enables the respondent bank to send or receive money from jurisdictions where they do not maintain a physical presence, but the correspondent bank does, thus allowing smaller or regional banks to gain access to the global financial system. These interbank accounts (referred to as "nostro" by the respondent and "vostro" by the correspondent) allow banks with correspondent relationships to quickly settle transactions along the payment chain, relying on a (typically SWIFT) messaging system to signal the ultimate destination of the transfer. These relationships serve as the backbone of international financial activity, facilitating transactions from trade finance and currency exchange to remittances (Liu and Fernando, 2020).

Typically, cross-border money transfers will travel through one or more correspondent banks via *nested* relationships or *pass through* accounts. For example, US dollar-denominated transactions must be settled by a designated dollar-clearing bank based in the US. Therefore, if a foreign bank needs to send or receive a payment in dollars, at least one correspondent must have a physical presence in the US and direct access to the U.S. Federal Reserve's payment system.

2.2 AML enforcement and correspondent banking relationships

By definition, correspondent banking connects multiple jurisdictions and is thus at significant risk to be used for money laundering, terrorism financing, or sanctions evasion. In response, the Financial Action Task Force developed an international regulatory framework on AML to require ongoing monitoring of correspondent relationships by financial institutions. For instance, correspondent banks are held liable for clearing all dollar payments that pass through their accounts. In 2014, BNP Paribas, France's largest bank, was fined $8.9 billion and suspended from dollar clearing for one year for certain business lines by the U.S. Department of Justice for processing billions of dollars in transactions on behalf of sanctioned entities in Sudan, Iran, and Cuba, all countries under U.S. sanctions.[2]

[2]"BNP Paribas Agrees to Plead Guilty and to Pay $8.9 Billion for Illegally Processing Financial Transactions for Countries Subject to U.S. Economic Sanctions." June 30, 2014

Initially AML regulation was *rule-based*, where financial institutions were required to report transactions or customers based on clear and transparent rules. One problem with such an approach is that illicit actors, knowing the reporting rules, can structure transactions specifically to avoid reporting, known as 'smurfing' in the AML literature (Takáts, 2011). In the early 2000s, following an earlier adoption in the USA, the international AML regime instead moved to a *risk-based* approach. Such a system relies on financial institutions evaluating the risk associated with their clients and transactions and then applying due diligence in accordance with the specific risk. Suspicious activity must be reported to national financial intelligence units (Unger and van Waarden, 2009). Banks and other financial institutions with insufficient due diligence or reporting can be sanctioned or fined significantly. In this private-public partnership, government entities, usually the financial intelligence units (FIUs), are generally involved in the supervision of financial institutions' compliance framework or if alerted by banks via suspicious transaction/activity reports (STRs/SARs). AML policies are, therefore, build around financial institutions' customer due diligence (CDD) systems that focus on the *know your customer (KYC)* approach, extending to *know the transactions of your customer* (KTYC), *know the customer of your customer* (KCYC), and beyond.

According to FATF, banks should undertake CDD initially when accepting a new customer, as well as continuously during the customer's relationship with the bank (de Wit, 2007). Similarly, Jensen and Iosifidis (2023) distinguish between two CDD tasks: 1) estimating the risk of money laundering for individual customers based on the customer's characteristics; and 2) detecting suspicious behavior or transactions, often grounded in the specific customer's risk profile. FATF recommendations include the request that financial institutions should conduct "ongoing due diligence on the business relationship and scrutiny of transactions undertaken throughout the course of that relationship to ensure that the transactions being conducted are consistent with the institution's knowledge of the customer, their business and risk profile, including where necessary, the source of funds" (FATF, 2025, 14). In correspondent banking relationships, the FATF recommendations imply that correspondent banks ensure knowledge about respondent banks' business and whether they have been investigated for money laundering or terrorist financing (FATF, 2025).

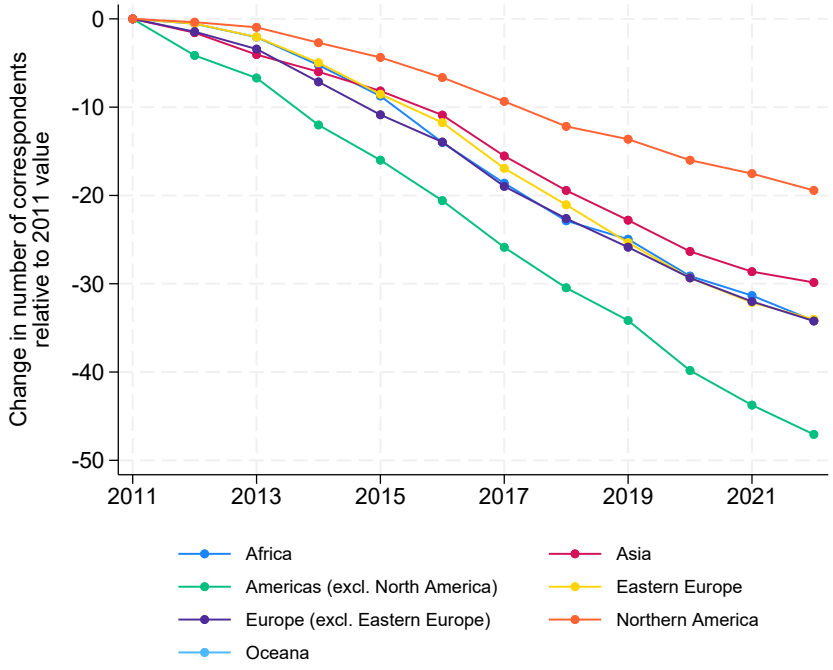
Most banks rely on computerized systems to alert humans about suspicious actions or accounts based on some automatic rules. Once an action is flagged, however, bank employees generally decide on a case-by-case basis whether to escalate or reject the alert. The vast majority

of suspicious reports are false positives, yet banks generally do not get to know whether their reports were accurately reflecting illicit behavior or not (Jensen and Iosifidis, 2023; Gara et al., 2024).

2.3 De-risking and the contraction of correspondent banking relationships

Starting in the early 2010s, many international banks started to cut back on their correspondent relationships throughout the world, but especially in the Global South, leading to a global contraction in the number of correspondent banking relationships. Analyzing aggregated data from SWIFT, Rice et al. (2020) estimate that between 2011 and 2018 cross-border correspondent banking relationships decreased by 20%, while the number of country pairs between which messages were exchanged (corridors) fell by over 10%. More recent data, published by the Bank of International Settlements, suggests an overall contraction of between 20-50%, depending on the region, with African countries losing 30% of their correspondents, on average (Figure 1). Despite, this the volume and value of international transactions increased over this period (Rice et al., 2020).

Figure 1: Global contraction in correspondent banking relationships, by region



Notes: This figure shows the total number of active correspondent banking relationships, by region, relative to its value in 2011. Data are taken from (Bank for International Settlements (BIS) – Committee on Payments and Market Infrastructures (CPMI), 2022).

One of purported reasons for this global contraction was stricter AML enforcement. Many large economies - most notably the United States - demonstrated an increased willingness in the 2010s to fine banks for insufficient supervision of their correspondent banking relationships. For example, in 2014 the US Treasury Department levied a $350 million fine on JP Morgan Chase for an inadequate "AML program for correspondent banking." It was argued that the specter of heavier AML enforcement led many banks to sever client relationships rather than take on the additional regulatory risk, a process known as de-risking (Collin et al., 2015).

While limiting banks' exposure to the risk generated by clients in high risk jurisdictions, the spate of de-risking incidents observed in the 2010s (in correspondent banking, but also the provision of banking services to money transmitters and non-profits) may have had unintended, unappreciated consequences. A loss of correspondent banking access may hurt firms that depend on cross-border transactions for their operations: recent research by Borchert et al. (2024) finds that corporate customers of banks that lose a correspondent banking relationship go on to export less, earn less revenue, and are more likely to go out of business.

Aside from the negative economic effects of de-risking, there is an additional concern that cutting off clients and financial institutions from the international financial system will undermine the ability to monitor illicit activity as much if it will substitute into cash or underground banking (The Economist, 2014). Even successful AML policies may end up shifting the dirty money elsewhere. More stringent AML regulation in the Caribbean led to more creations of front companies in the US (Colella et al., 2025). Similarly, the enforcement of cross-border information exchange for tax enforcement has shown that those engaging in offshore tax evasion often substitute into jurisdictions or asset classes that escape the reporting regime (Bomare and Herry, 2024).

2.4 AML enforcement and correspondent banking in the DRC

AML enforcement in the Democratic Republic of the Congo is thought to be very weak. The most recent mutual evaluation review (conducted by a FATF-style regional body known as GABAC), marked the country as non-compliant or partially compliant in its implementation of the majority of the FATF's standards and gave the country the lowest score possible for its effectiveness of fighting money laundering (Task Force on Money Laundering in Central Africa (GABAC), 2021). The report highlighted systemic corruption as one of the main threats to the Congolese financial system, and noted that the main financial intelligence unit (CENAREF) was significantly under-

resourced. Despite a general consensus that the DRC is a hotbed of illicit finance, CENAREF only received 56 suspicious transaction reports from financial institutions between 2015-2018. While the Central Bank of Congo (BCC) receives reports on all bank transfers over $10,000, it only forwarded four of these to CENAREF over the same period. Due to its persistent failings in implementing AML standards, the FATF added the DRC to its 'greylist' of higher risk countries in 2022.

To date there has been no empirical study of how the DRC's enabling environment has impacted its ability of its financial institutions to maintain correspondent banking access. A recent IMF financial sector review noted that the loss of correspondent banking services due to de-risking was one of five key macrofinancial vulnerabilities (International Monetary Fund, Monetary and Capital Markets Department, 2022). The most recent CPMI report with country-by-country data, indicated that between 2011 and 2015, the DRC actually grew its number of correspondent banking relationships by 8.5% (Committee on Payments and Market Infrastructures (CPMI), 2016). However, as we describe below - it is possible that at least one of its financial institutions was de-risked after this point.

As is common in most countries, banks in the DRC making foreign wire transfers need to clear their transactions in USD, the currency that is used for the majority of trade and forex transactions around the world, requiring a direct or indirect relationship with a US-based correspondent bank.[3] Foreign correspondents were also (unusually) necessary for clearing most inter-bank transactions in the DRC. During the time period of our study, the existing real time gross settlements system (RTGS) took weeks to clear inter-bank payments. The system was upgraded in 2017, but was not extended to dollar clearing until after 2019. Because the formal DRC economy was highly dollarized at the time, with approximately 90% of deposits and almost 95% of loans in Congolese banks denominated in USD, the SWIFT system, and thus foreign correspondents, were used for than 90% of interbank activities in the DRC (U.S. Department of State, 2017). Thus, the DRC is highly vulnerable to de-risking.

[3]BGFI Bank DRC's dollar clearing was always done through correspondent banks that themselves had a US-based correspondent.

3 Data, High-Risk Clients and Evidence of De-Risking

3.1 The Congo Hold-Up Leak

Our primary data come over 3.5 million internal documents from BGFI Bank received by the Platform to Protect Whistleblowers in Africa (PPLAAF). BGFI Bank DRC was created in 2010 and is the Congolese subsidiary of the Gabonese BGFIBank Group. During the period we study a significant share (40%) was owned by President Joseph Kabila's sister. In 2021, 19 media outlets and five non-governmental organizations collaborated to publish over 100 stories across over 18 countries that documented rampant corruption and cross-border money laundering emanating from Kabila's presidential administration and close associates.[4] Among significant signs of political patronage, public sector corruption, the reporting also highlighting several purported money laundering networks that utilized the bank to move money both in and out of the country.

We acquired access to the leaked documents through an agreement with PPLAAF and have received IRB approval to analyze the sensitive data.[5] In the aim of protecting the source, there are some limitations on how much we can describe the underlying data. To prepare the data for analysis, we extracted, parsed, and cleaned information on millions of internal and external transactions running through BGFI Bank DRC from 2010 to 2019. For each transaction, we are able to identify the date, sender, receiver, amount, and a brief description. In addition, for foreign and domestic wires, we observe information on the correspondent bank as well as the name of the foreign recipient and the bank where its account was held. Because transactions can occur in any of nine different currencies (depending on their destination), we convert all amounts into current US dollars using the average monthly exchange rate. In total, we can observe approximately $1.6 billion (390 million) in outgoing (incoming) foreign wire transfers and $405 million (911 million) in domestic wire transfers. As is the case with the DRC as a whole, which maintained a net negative financial account throughout the 2010s, BGFI Bank DRC's clients in net transfer more abroad than they receive.

The data we have constructed covers the activities of roughly 2,000 companies and 25,000 individual clients of the bank. Our analysis focuses on corporate clients of BGFI Bank who are collectively responsible for roughly one third of the internal and external transactions of the bank, and 96% of the value of all outgoing wire transfers. For the purpose of this paper, we exclude

[4] For a compilation of the published articles, see https://congoholdup.com/en/.

[5] Approval *NCR234884* from George Washington University's Institutional Review Board

all natural persons, government institutions, and internal BGFI accounts from the dataset. This leaves us with approximately 1,900 external clients with accounts at BGFI Bank DRC. We enrich this client-level dataset with information on sector, legal status, date of incorporation, and other basic company characteristics using documents contained within the leak.

3.2 Suspicious Clients

We first focus on identifying clients we believe to be more likely to be using BGFI Bank DRC primarily to illicitly funnel money offshore. As the Congo Hold-Up investigations clearly demonstrated, BGFI Bank DRC had weak compliance standards in place for most of the period we consider. Reporters highlighted significant sums of illicit money leaving the bank to the rest of the world. However, we have not encountered any information in the leak which describes the bank's own efforts to identify high risk clients. Nor, given the lax enforcement environment detailed by journalists, would such an effort offer an unbiased view of the risky client base.

Instead, we develop two original indicators to label suspicious clients. The first relies on a more conventional red-flagging approach using both reporting by journalists and civil society investigators as well as internal bank documents. First, we compiled a list of all the legal entities implicated in money laundering and/or corruption that were named in any media article published under the Congo Hold-up collaboration or by participant research institutes.[6] All of these articles were fact-checked extensively and underwent libel review, increasing our confidence in their veracity as a measure of money laundering occurring through the bank. This final list of red-flagged firms included both large corporations such as Entreprise Générale d'Alimentation et de Logistique (Egal), a large state-owned food importer accused of embezzling state funds for Kabila's own personal use, as well as much smaller shell companies such as the Congo Construction Company, which was used to facilitate bribes to President Kabila's cronies (Congo Research Group, 2021; The Sentry, 2021) Together this approach yielded 38 companies, many of whom are closely linked to the Kabila regime.

Finally, we uncovered a separate list of sixteen "related parties" that was produced during 2018 internal audit of the bank. This document was produced after a nearly four-year investigation led by Yvan Douhoure, who was tasked with "conducted an autopsy" of BGFIBank under

[6]These included roughly 30 media publications in eight languages as well as eight separate policy reports under the Congo Hold-up. In addition, we drew on a separate earlier report published by the Congo Research Group and the Pulitzer Center on Crisis Reporting which mapped out all the companies known to be governed or connected to President Kabila during his time in office (Congo Research Group, 2017).

the tenure of Francis Selemani, the bank's managing director and Kabila's foster brother.[7] The report concludes that all related parties presented an Unacceptable / Very High Risk for the bank itself, writing that "this opinion is justified by the absence of a framework governing regulated agreements, a lack of integrity and transparency in the disclosure of conflicts of interest, and compliance-related issues regarding the justification of transactions involving related parties that are clients of the Bank" (BGFIBank RDC SA, 2018).

Collectively, 43 legal entities were flagged through either approach, with 7 appearing on both lists. Table 1 shows descriptive statistics across these first input red flags. The "Any Red Flag" row shows figures for all companies which had either red flags in total. We see that although these red-flagged companies represent just 3% of the total number of accounts in the bank, they are responsible for 8% of foreign transactions (wires) and nearly 17% of the volume leaving the bank.

Table 1: Suspicious Clients: Descriptive Statistics

Category	Num. Accts	Num. Wires	Total Volume Wired ($m)
Investigated	38	1,123	227.5
Related Party	16	259	26.0
Any Red Flag	43	1,196	230.4
Cash Dominant	450	1,764	152.9
All Companies	1,905	14,040	1,400.3

Note: This table provides summary statistics for the red flags developed using open-source reporting (Investigated) and the internal audit of related parties (Related Party). The row Any Red Flag shows aggregate statistics for accounts that held any of those red flags. Cash Dominant refers to a binary indicator if at least 90% of an accounts deposits were in cash. The row All Companies shows the same statistics for the full sample of 1,905 accounts held by legal entities.

Next, we argue that the influx of large amounts of cash into a given client's account is a strong indicator of downstream money laundering. One difficulty is that during the 2010s, the Democratic Republic of Congo was predominantly a cash economy. Formal banking, particularly for ordinary citizens and small businesses, remained limited to urban centers and a narrow segment of the population. The U.S. State Department estimated that in 2016, only approximately six percent of the population had a bank account (U.S. Department of State, 2017). Most business-to-consumer, and a substantial percentage of business-to-business, transactions took place using cash.

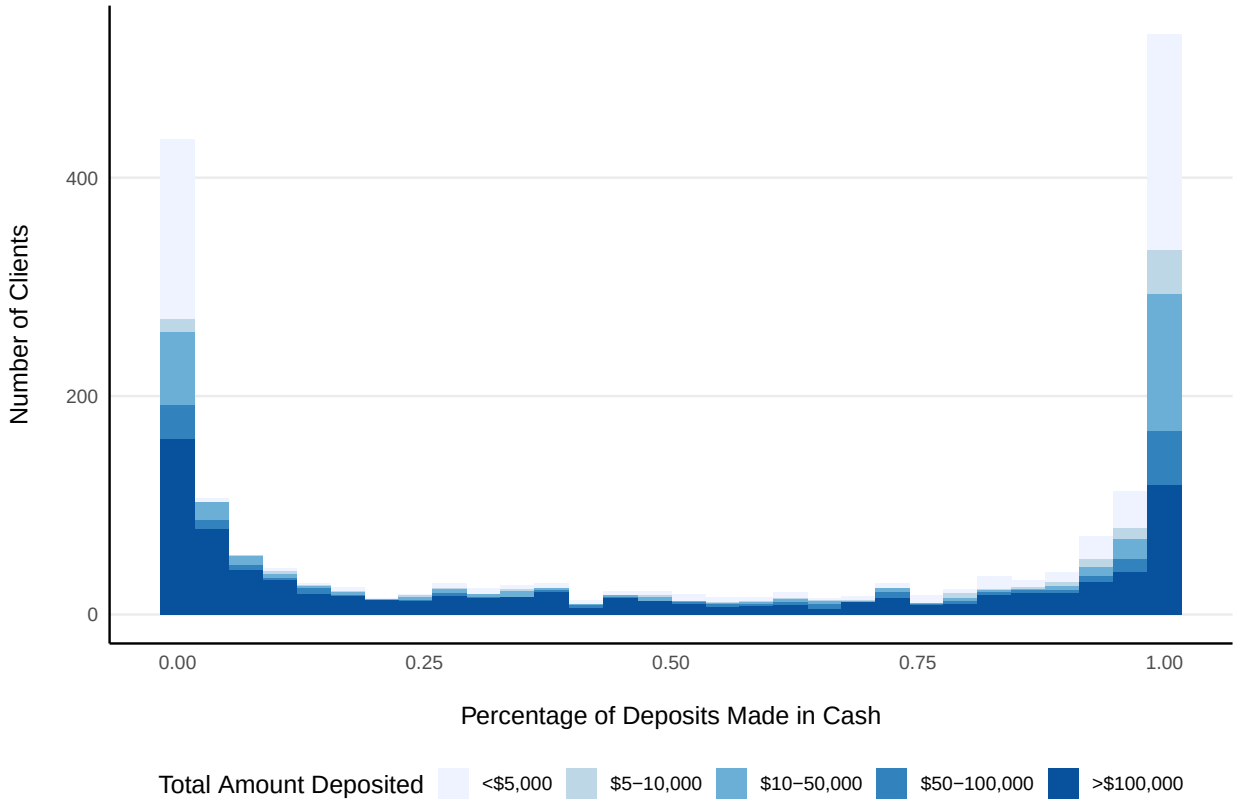
We see this clearly in the deposit activity at BGFI Bank DRC. The internal transaction data

[7] kavanagh2021china

allows us to identify cash deposits made in both US dollars and Congolese francs (the two currencies used almost exclusively). All deposits made in francs are first converted to their US dollar equivalent. For each client in our sample, we then calculate the percentage of deposits that were made in cash over the period studied.

Figure 2 plots this distribution, with the different colors illustrating the total amount of deposits (cash and non-cash) for each client. We see a strikingly bimodal pattern in cash receipts of BGFI Bank DRC's corporate clients. Roughly one-quarter basically never receive any cash deposits, while roughly one-quarter almost exclusively deal in incoming cash. The remaining half is distributed mostly evenly between the two poles. Importantly, this pattern is not being driven by firm size: we see roughly the same number of small and medium-sized clients at each of the extremes, and there are still a substantial number of large clients (with at least >$100,000 flowing into their accounts) that received almost all of their deposits in cash.

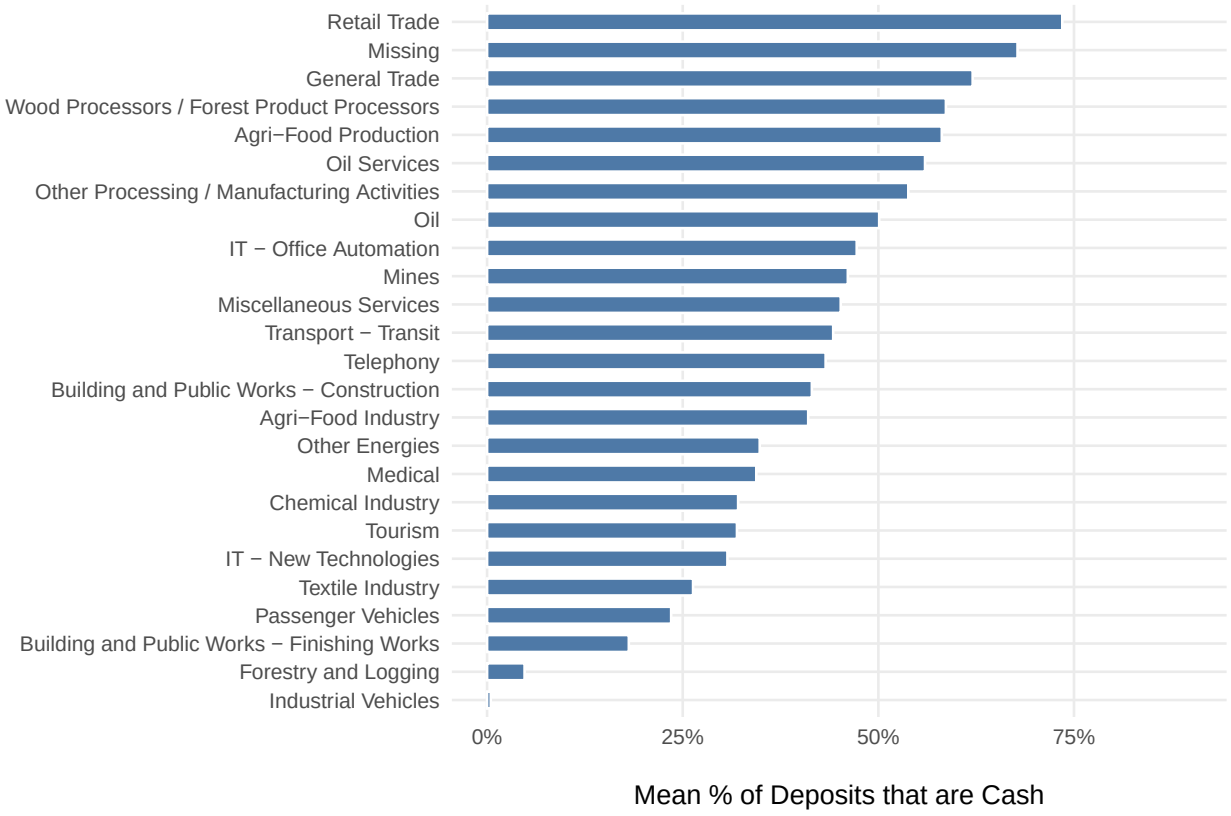
Figure 2: Cash Deposits at the Client-Level



Notes: This figure plots the percentage of receipts (deposits) coming into each client's account at BGFI Bank DRC that were made in cash. Bars are colored by the total amount each unit received, broken into five categories.

As of the most recent World Bank Enterprise survey in the DRC, the average firm in the DRC earns more than 90% of its revenue in cash, this is true even for larger firms and those who have access to bank accounts.[8] Thus many firms, particularly depending on the sector they work in, will likely be depositing larger amounts of cash at the bank. Figure 3 plots the mean percentage of cash deposits broken down by clients' self-reported sector of activity. Those that identify as working in trade (both retail and general) rank among the highest, though we do observe several sectors related to light manufacturing and services also distinguished by a high degree of cash intensity. We also see a similar degree of heterogeneity in cash intensity within these groups.

Figure 3: Cash Intensity by Business Sector



Notes: This plot shows the mean level of cash deposits (as a percentage of total receipts) by clients' business sectors. Business sector codes are self-reported and are contained in the client-level data in the leak.

Cash-dominant activity in and of itself may not be an indicator of suspicious activity in a country like the DRC. However, in Appendix Section A.1, we show that large cash deposits are rapidly funneled out of client accounts as foreign wires to banks around the world. The velocity

[8] Authors' own calculations

of cash deposits into and wires out of the same accounts suggests that there is something special about cash deposits. These types of deposits are more likely to be funneled offshore than other types of revenue.[9]

These findings as evidence that significant cash deposits are, on average, indicative of these accounts being used launder cash through BGFI Bank DRC to accounts abroad. Based on this finding, we classify all corporate clients that received at least 90% of all their deposits in cash as suspicious, or roughly 24% of our total sample of clients. As Table 1 shows, these clients are responsible for 13% of foreign transactions out of BGFI Bank DRC during the period. Below, we draw on these two independently constructed measures of suspicious activity (the binary red flag indicator draws on investigating reporting and internal documents, while the cash dominant indicator draws on account transaction behavior) to track the effect of de-risking on more or less dodgy money leaving BGFIBank-DRC.

3.3 Evidence that BGFI Bank DRC was de-risked

Our main goal is to evaluate the impact of a de-risking event that happened in early 2016. In January of that year, employees at both Commerzbank and FIM Bank began raising alarms about large incoming and outgoing wires from BGFI Bank DRC that were not properly substantiated through invoices and other accompanying documentation. In one instance, a Commerzbank employee in its Frankfurt office questioned the justification behind an incoming wire of $100,000 from the Congo Highway Management Corporation (CHMC) into the BGFI Bank DRC account held by the Congo Construction Company (CCC) and warned that BGFI could be cut off.[10] There is no evidence that either BGFI Bank DRC ever responded to the employee's email or that the specific transaction was ever processed.[11] By April 2016, Commerzbank had ceased clearing any BGFI Bank DRC transactions.

As the BGFI Bank DRC data allows us to identify the specific correspondent bank used for every foreign and domestic wire, we clearly identify this event in the external transactions (wires). Figure 4 shows the cumulative outgoing transaction volume settled by the different correspondent banks. In the period up to 2016, BGFI Bank DRC maintained relationships with seven different banks located mainly in Europe but also in Africa. However, the vast majority of trans-

[9] This type of cash funneling behavior was frequently described in the wealth of reporting from the Congo Hold-Up and related investigations. Many of the most egregious transactions linked to political associates of President Kabila involved quick turnover of cash through BGFI Bank DRC into related accounts abroad.

[10] The Sentry, "The Backchannel: State Capture and Bribery in Congo's Deal of the Century," November 2021

[11] When in March 2016, CHMC tried to later wire $100,000 through FIM Bank, the transaction was again held up over compliance concerns.

actions were settled by just two: Commerzbank (headquartered in Germany) and FIM Bank (headquartered in Malta). The volume of transactions settled by Commerzbank, however, begins falling precipitously beginning in January 2016. By July 2016, the monthly volume of transactions settled by FIM Bank had similarly dropped by over 90%.[12]

This severing of ties by Commerzbank came during a time when the bank, was beginning to pull back from correspondent banking relationships around the world. In 2015, the US Department of Justice charged the bank with "willfully failing to have an effective anti-money laundering (AML) program, willfully failing to conduct due diligence on its foreign correspondent accounts, and willfully failing to file suspicious activity reports."[13] Ultimately, Commerzbank settled for a fine of $1.45 billion for turning a blind eye to breaches of violations of economic sanctions by businesses operating in Iran and Sudan.[14] In its 2016 annual report, the bank declared that it had begun streamlining its correspondent banking network around the world beginning in the second quarter of that year, the exact same time when it stopped processing transactions from BGFI Bank DRC. To explain the decision, in the company's own words, "apart from earnings, cost and risk issues, compliance standards also play an important role here."[15]

We view Commerzbank's dramatic pullback from the correspondent banking relationship with BGFI Bank DRC (in 2015, Commerzbank had processed 74% of foreign wires) as a clear de-risking event, one that potentially had far-reaching impacts into how BGFI Bank DRC engaged with the rest of the international financial community. In general, we use January 2016 as the exact date when the relationship ended, though show robustness checks to using April 2016, the last month when Commerzbank is noted as the correspondent bank of record on a transaction. After the de-risking event in early 2016, BGFI Bank DRC contracted for correspondent services mainly with two different banks: BMCE Bank (headquartered in Morocco) and BGFI Bank International (located in France).

The choice of which correspondent bank to use for a given transaction often depends on multiple factors, both specific to the transaction itself and the respondent bank's overall operation. Correspondent banks vary widely in the advantages they offer for payment facilitation, including the time zone they are located in (which can affect message processing speed), their

[12]There are sporadic, one-off transactions settled by FIM Bank over the next three years, but the volume never returns to previous levels. It is possible that BGFI Bank DRC stopped using FIM Bank because of the compliance issues being raised.

[13]"Commerzbank AG Admits to Sanctions and Bank Secrecy Violations, Agrees to Forfeit $563 Million and Pay $79 Million Fine." Department of Justice Press Release. March 12, 2015.

[14]Miller, Joe. "Commerzbank to pay $1.45bn for US banking violations." BBC News, March 12, 2015.

[15]Commerzbank. "Annual Report" 2016

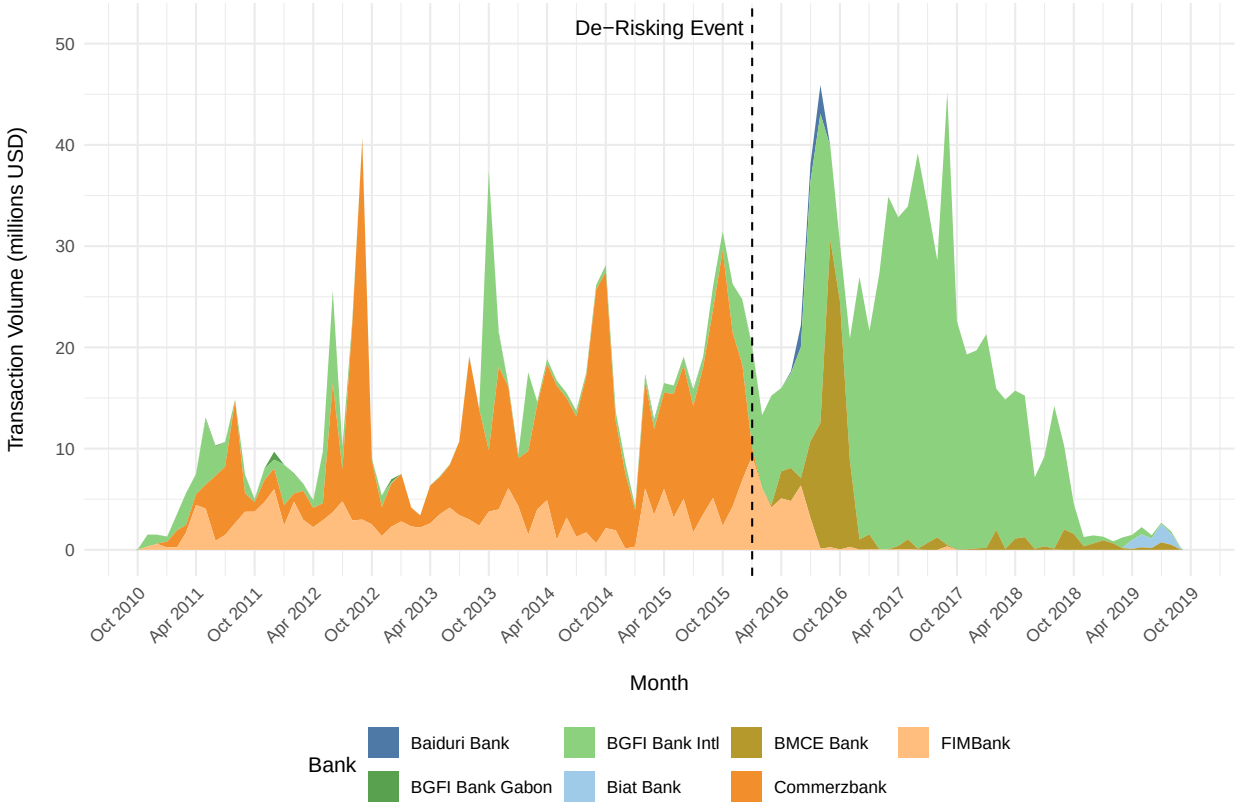
cut-off times, the available liquidity in the vostro account, credit and exposure limits, and their risk tolerance and KYC/AML compliance procedures. In the end, which correspondent bank is ultimately chosen depends on any number of factors, taking into account the beneficiary's payment instructions and the cost, speed, feasibility, and compliance requirements for executing the transaction.

Importantly, the fees that each correspondent bank charged do not seem to be determinative of which correspondent bank is used. Correspondent fees are set based on bilateral agreements (such as per transaction, per volume, or per type of service).[16] We see that the top four correspondent banks, which collectively account for 90% of the outgoing transactions, differ little with regards to how fees are charged: whether they are paid by the sender, shared by the sender or receiver, or paid by the receiver (the remainder, not shown). When we do observe fees paid by the sender (either solely or shared), there is little variation in the rate charged by each correspondent bank. Appendix Table A4 shows that over the period studied, most correspondent banks charged roughly 0.5% of every transaction. We do not observe any clear patterns where senders paid consistently more or less if they used a specific bank.

There is also little evidence that specific correspondent banks were used exclusively for transactions into specific countries. Appendix Figure A3 maps the percentage of transactions going to each of the top 20 country destinations that were settled by the seven correspondent banks used by BGFI Bank DRC before 2016 (each row sums to 100%). For every country, transactions are processed by a combination of different correspondent banks.

[16] In addition to payments to the intermediary correspondent banks, senders may have to cover exchange margins if conversion is involved, regulatory fees (e.g., exchange rate monitoring), and value-added tax, all of which are observed in the data.

Figure 4: Transaction Volume by Correspondent Bank



Notes: This plot shows the total amount of external transaction volume (foreign wires) settled by each correspondent bank over the analysis period. The De-Risking Event occurred when Commerzbank began severing ties with BGFI Bank DRC starting in January 2016.

4 De-Risking and Money Laundering

We begin by examining whether firms later identified as suspicious by investigative journalists and auditors changed their behavior after the de-risking event, when Commerzbank and Fimbank exited their correspondent relationship with BGFIBank-DRC. We apply several different techniques for analyzing the effects of this break, which we estimate based both on internal documents and the changing use of correspondents to have occurred around January 1, 2016. First, we limit the analysis to only accounts held by legal entities that were opened prior to this date. Our aim is to conduct a before-analysis of foreign transaction activity around the de-risking event.

Figure 5 shows just simple descriptive patterns first, with the number of foreign transactions executed by each group (red-flagged or not) shown in Panel A and the volume shown in Panel B. Neither plot shows apparent evidence that the post-2016 period when new correspondent banks stepped in experienced fewer foreign transactions from red-flagged firms, especially compared to firms with none of these characteristics. Overall transaction volume falls markedly for the while sample, the flow of suspicious money continued even after Commerzbank and Fimbank cut ties with BGFIBank-DRC.

Next, to investigate the exact timing of the event, we estimate a monthly event study, as shown in Figure 6. This specification interacts indicators for each month relative to the de-risking event with the red flag indicator at the account level. The month immediately before de-risking (December 2015) serves as the reference period. Panel A uses as an outcome the number of transactions, while Panel B looks at total transaction volume per client-month. Given that both outcomes are skewed and contain zeros, we estimate Poisson pseudo-maximum likelihood models and include client (account) and month fixed effects, with a 24 month window shown on both sides of the event. In general, the pre-period shows a downward trend in the pre-de-risking period, which could suggest that any negative effect could be related to these clients using BGFIBank-DRC less and less before the de-risking event altogether.

Instructively, we see little effect of de-risking on the either the number or the volume of transactions by these red-flagged clients. Although there is a small dip in volume roughly seven months after Commerzbank cut ties, those figures return to their pre-de-risking levels within three or four months, suggesting little sustained downwards pressure on clients' ability to transact with the rest of the world. Appendix Table A2 shows the corresponding regression results

looking at both outcomes, but showing models with client-specific time trends and both Poisson and OLS specifications. We see some evidence that de-risking reduced transaction activity by red-flagged firms relative to the rest of the account base, but the results are quite noisily estimated.

Next, we show the same set of results using the indicator for an account being cash dominant, which is separately measured from the other red flags. Here the results look quite similar. In Figure 7 using the raw data, we see no apparent drop in the number of volume of transactions coming from these cash dominant firms after de-risking. As with the analysis related to red flags, there is a slow but steady decline in all foreign transactions emanating coming from the banks. This could be evidence of reduced access to the financial system because of issues related to correspondent banking, or reflect a decline in BGFIBank-DRC business more generally because of its growing reputational issues. But importantly, transactions from more suspicious firms do not decline more quickly.

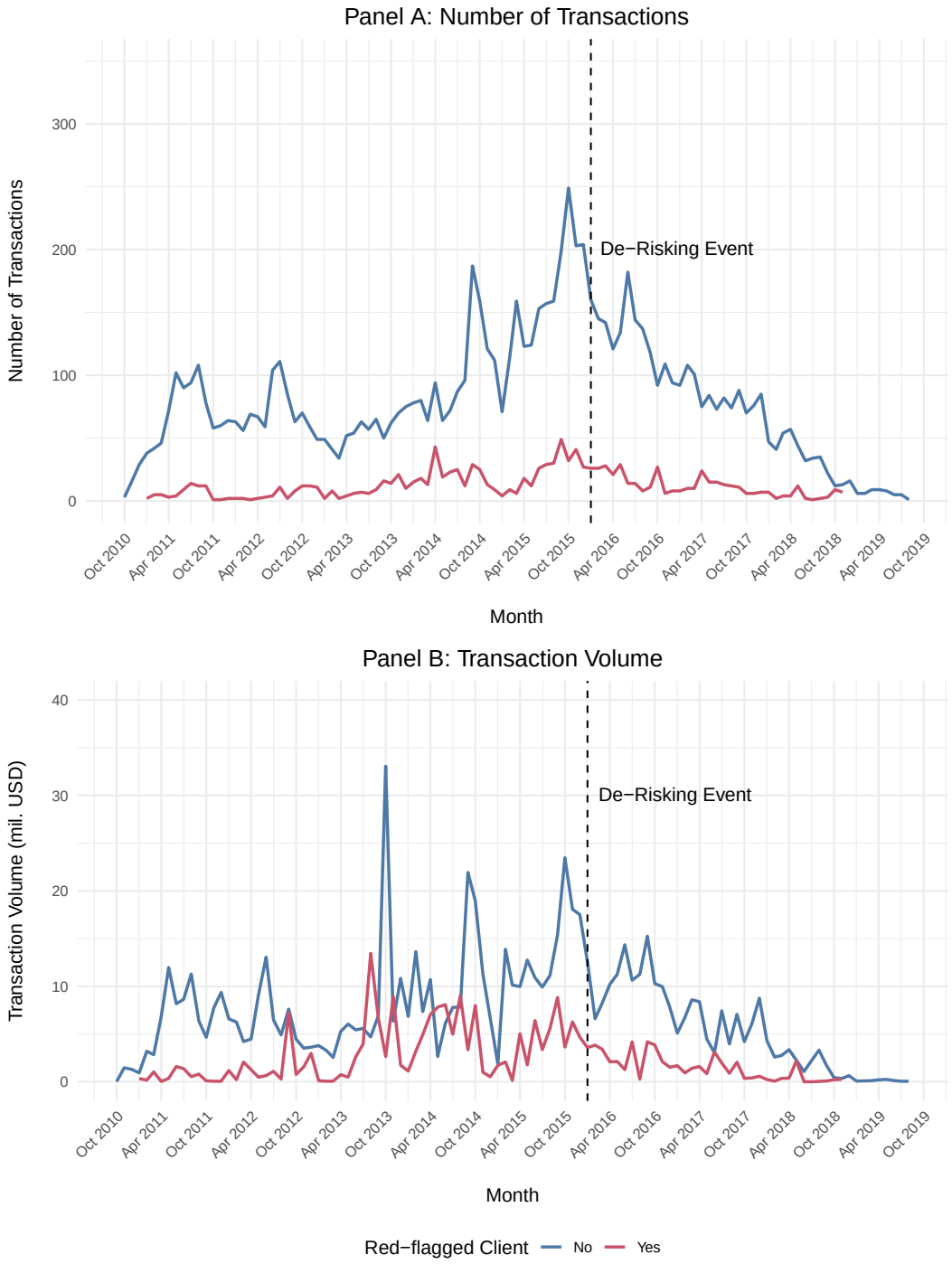
That null effect is apparent when both an event study and difference-in-difference specifications are conducted. We see in Figure 8 again the absence of any clear effect of de-risking in the subsequent transactions period. Even with a marked upward trend among cash dominant clients two years prior to the event, the difference between the two groups is basically null following the event (i.e. in the post-2016 period). Appendix Table A1 shows highly inconsistent evidence depending on the specifications, with coefficients of positive and negative signed and no significance observed on the results with linear time trends.

In all, we see little evidence that de-risking stemmed the flow of suspicious cash through BGFIBank-DRC. These results are based on specifications at the client level, with redflagging and the dependence on cash deposits serving as proxies for those that were more likely to have engaged in suspicious foreign transactions.

5 Substituting Correspondent Banks

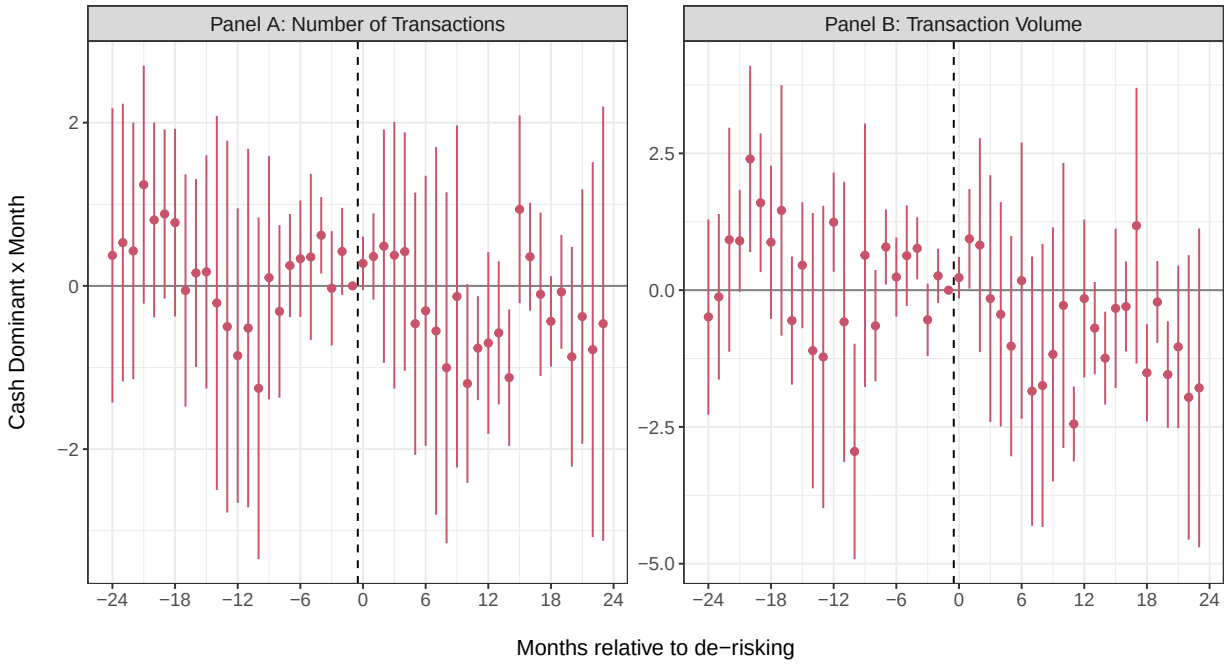
In this final section, we investigate whether deficiencies in the replacement correspondent banks in the post-de-risking period may explain why the flow of suspicious money abroad from BGFIBank-DRC did not dry up. If BGFIBank-International and BMCEBank, the two banks that stepped in to serve BGFIBank-DRC after the event, were more lax in how they scrutinized transactions, this would suggest that de-risking may lead to serious compliance issues by substituting in riskier international financial service providers.

Figure 5: De-Risking and Red Flagged Accounts



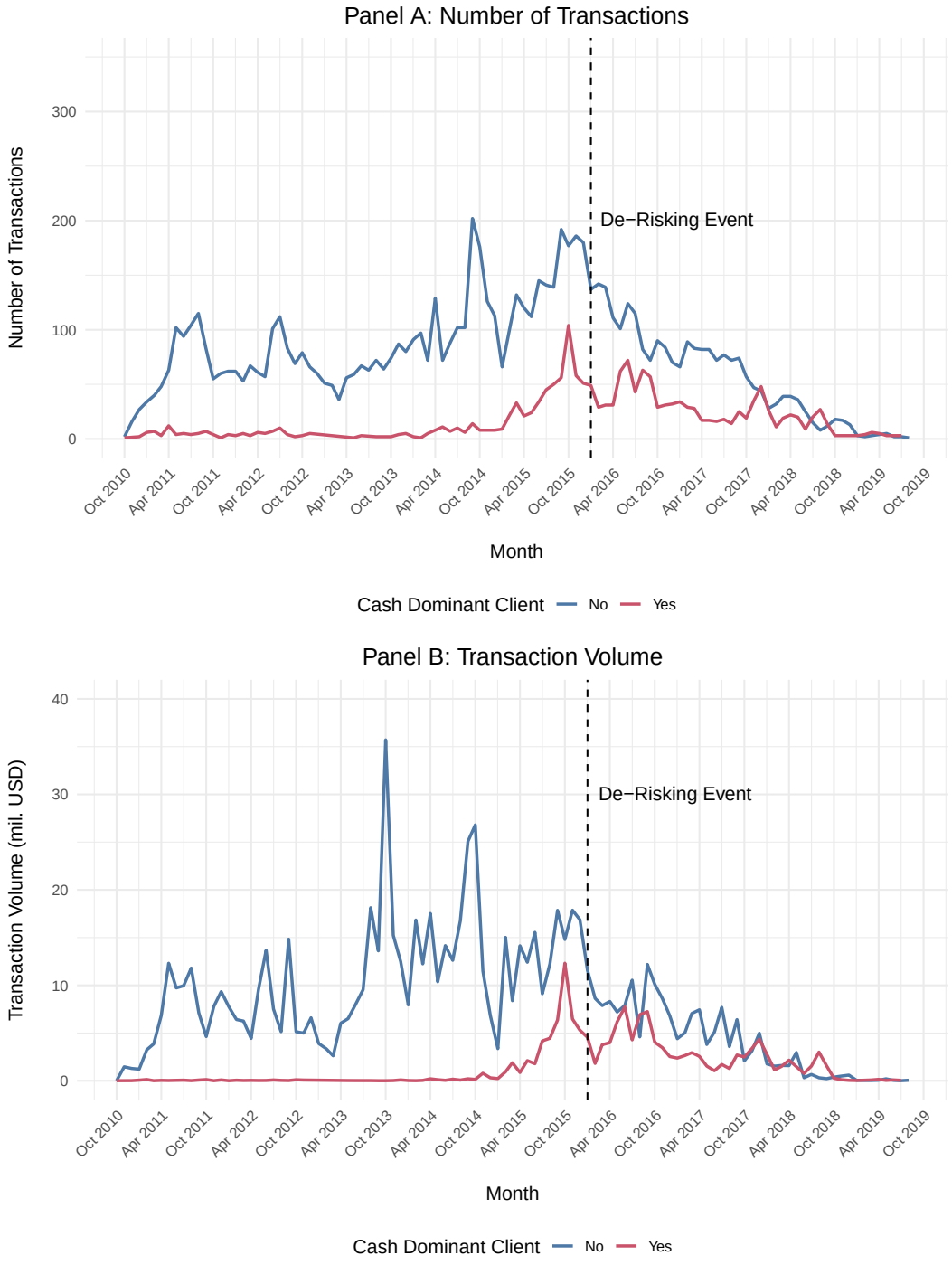
Notes: These figures show the number of foreign transactions (Panel A) and net outflows of total transaction volume (Panel B) over the analysis period, broken out by whether the sender (BGFI Bank DRC client) was red-flagged by investigative journalists or identified as a related party by an internal BGFI auditor. Only transactions for accounts opened prior to 2016 are included. The dotted line shows the date when Commerzbank began severing its correspondent banking relationship with BGFI Bank DRC.

Figure 6: De-Risking Event Study: Red Flagged Clients



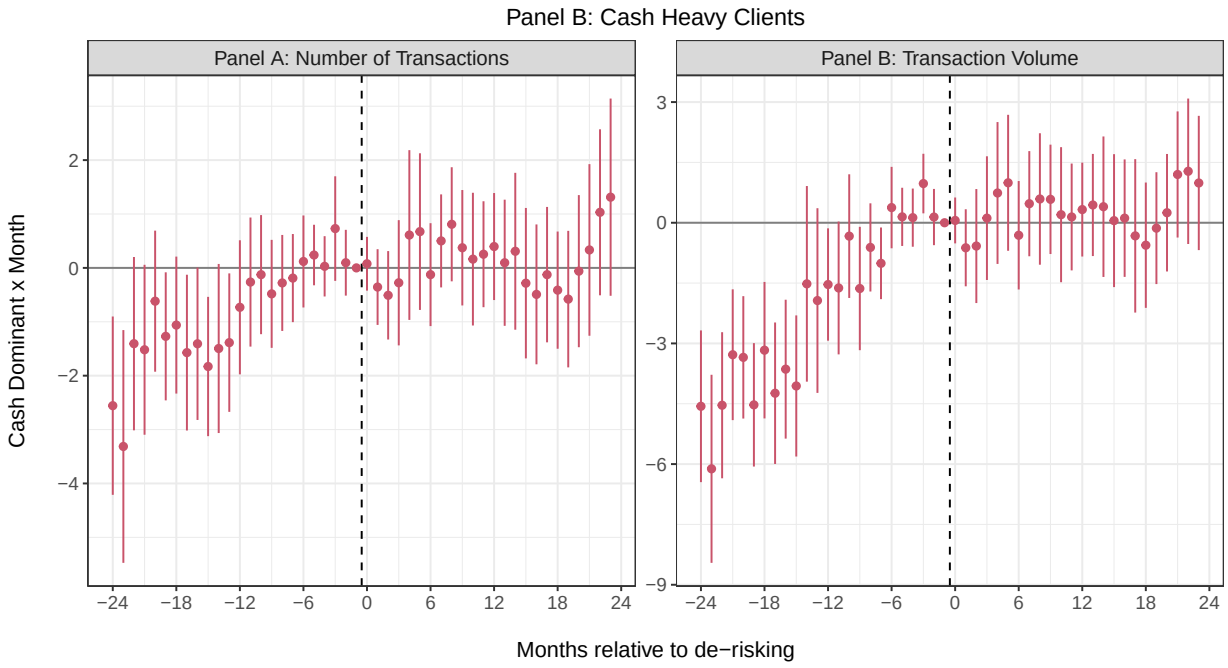
Notes: This figure plots the coefficients from Poisson pseudo-maximum likelihood event studies of monthly client activity based on interactions between month indicators relative to the de-risking event and the Any Red Flag indicator. The outcome in Panel A is the number of transactions, while in Panel B it is total transaction volume. All models include client and month fixed effects, and bars show 95 percent confidence intervals with standard errors clustered by client.

Figure 7: De-Risking and Cash Dominant Accounts



Notes: These figures show the number of foreign transactions (Panel A) and net outflows of total transaction volume (Panel B) over the analysis period, broken out by whether the sender (BGFI Bank DRC client) was considered to be cash dominant based on its internal transaction history. Only transactions for accounts opened prior to 2016 are included. The dotted line shows the date when Commerzbank began severing its correspondent banking relationship with BGFI Bank DRC.

Figure 8: De-Risking Event Study: Cash Dominant Clients



Notes: The figure plots the coefficients from Poisson pseudo-maximum likelihood event studies of monthly client activity based on interactions between month indicators relative to the de-risking event and the Cash Dominant indicator. The outcome in Panel A is the number of transactions, while in Panel B it is total transaction volume. Only transactions for accounts opened prior to 2016 are included. All models include client and month fixed effects, and bars show 95 percent confidence intervals with standard errors clustered by client.

To first test for this, we code up a new red flag at the transactions level During out period of study, BGFI assigned a balance-of-payment code to its SWIFT messages, following the format published the Banque Centrale du Congo (BCC), labeling outgoing transactions as being for imports of goods, services, income or capital transfers, or other types of transfers such as trade credit or loans, plausibly for input into the BCC's construction of the balance of payments. Prior to 2016, nearly every transfer abroad was assigned a code mapping onto an ordinary cross-border operation, while transfers to other banks within the DRC were given either the label "D120" (settlement between banks) or "R120" (settlement, resident FX account). Most transactions between banks in the DRC, even those in foreign currency, will not have fed into the balance-of-payments and so would not have needed a more specific label.

At the same time, during our period of study, all cross-border foreign exchange operations had to undergo a 'domiciliation' process, where those making cross-border transfers in exchange for goods or service above certain monetary thresholds[17] were required to file a domiciliation record through a bank, which indicate the amount of currency involved, its purpose (goods, services, capital transfers, etc), and for goods imports, their cost plus freight and insurance. The domiciliation files managed by financial institutions would be transmitted to the BCC for its information, and in theory these declarations could then be checked later by customs officials to ensure the imported goods crossed a border, although it is unclear in practice how often this happened before 2016.[18] Because transfers between banks in the DRC did not involve an exchange of value across the border, even when made in a foreign currency, those transfer were exempt from the domiciliation requirement.

Beginning in late 2015, staff at BGFI began to label a small number of outgoing transfers using the code "D120" or "R120," despite the fact that the ultimate destination of these transfers were overseas, and the descriptions involved the purchase of goods or services. As can be seen in 9 below, in 2016, following the de-risking episode, the value of all outgoing cross-border SWIFTs that used this code ballooned to over 50% of the total outgoing payment volume at the bank. By our calculation, only 1% of these transactions carried a domiciliation license, meaning that - absent some other reporting regime we are unaware of - neither the central bank, nor the customs authorities would have been aware of these outgoing payments. A large share of

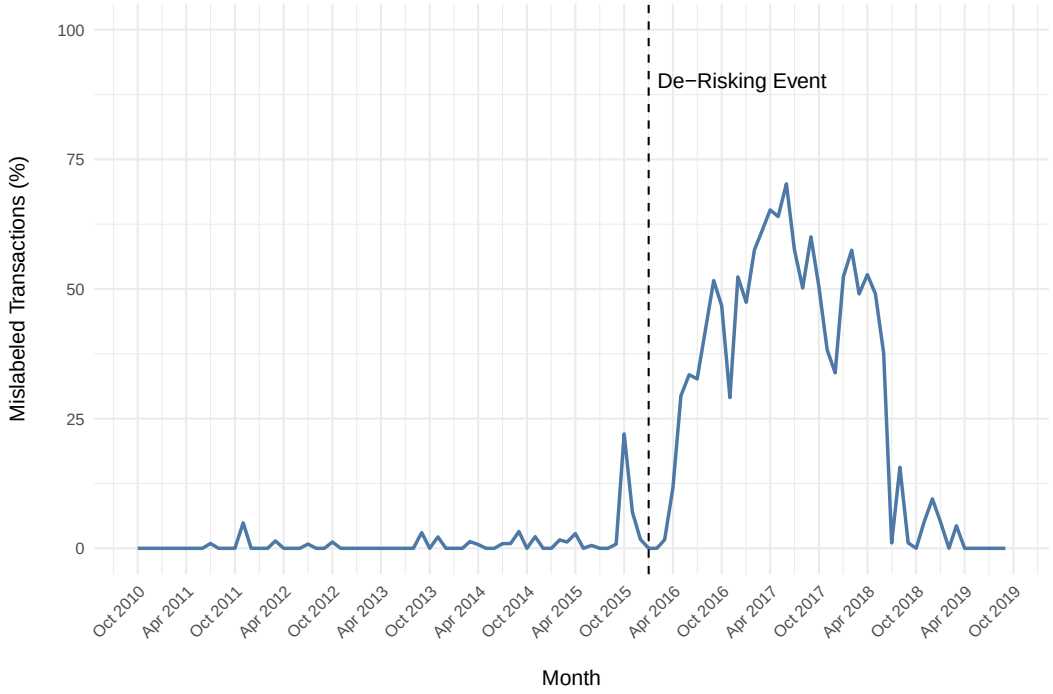
[17] $2,500 for goods and $10,000 for services and other capital transfers.

[18] In 2016 itself, the DRC introduced a 'single window' process for foreign exchange and customs operations, where the the BCC, pre-inspection agencies and customs would have access to a single file holding the domiciliation record, pre-shipment inspection results and customs declarations all in one place.

the clients involved in these payments are cash-intensive businesses already identified by our analysis above and by journalists as being of a high risk of engaging in money laundering, as well as several accounts connected to the Kabila family.

While we do not believe that this surge in transaction labeling is being driven by the de-risking episode, it is another example of how illicit activity continued, or even surged, after the de-risking episode. Indeed, the use of this mislabeling technique to throw off compliance officers was apparent among all correspondent banks serving BGFIBank-DRC. Using data from October 2015 onwards, when it first began to appear on transaction records, we see that four of the BGFIBank's five main correspondent banks processed foreign transactions that carried this domestic "bank-to-bank" label. Importantly, we also see very low rates of transactions being rejected or returned after the fact because compliance issues were unearthed by the correspondent bank. Overall, the two main correspondent banks that severed ties with BGFIBank-DRC rejected or returned less than 1% of all of the transactions they processed, including those from firms later found to be engaged in money laundering or handling the bulk of their business in cash.

Figure 9: Overseas Wires Mislabeled As Within-DRC Bank-to-bank Transactions



Notes: This figure plots the percentage of transactions which used a domestic bank-to-bank code (D120/R120) on the SWIFT transaction, despite the fact that the transactions were actually cross-border.

Indeed, during the time period we study, several internal audits provide insight into the inad-

equacy of the compliance system at BGFIBank DRC. In one audit document from 2016 contained in the leak,[19] the audit team notes extensive shortcomings across most areas of the bank's organization, including the execution of foreign transactions and in the bank's compliance department. The audit states that the compliance department meetings are irregular, employees are insufficiently trained, important tools for compliance monitoring are unavailable, and that compliance reports are incomplete. The audit further notes significant violations in the area of AML regulation, such as a lack of monitoring of transactions by occasional customers and a lack of updating of customer information by representatives. Importantly, it also finds a lack of information in the bank about its correspondent banking relationships. According to the document, in violation of existing regulation, BGFIBank DRC lacked significant documentation of its correspondent banking relationships. While BGFI International, FIMBank, Commerzbank, BIC, and BIAC are listed as correspondent banks, the auditors were unable to locate almost all of the required documents for the listed correspondent banks. Each bank's dossier containing between one and three of the fourteen required files. Notably, the AML questionnaire could only be found for FIMBank.

Another audit from 2018 reveals how little had changed in the bank over the course of period studied in this paper.[20] The 2018 audit makes explicit reference to the bank having been subject to scandals in 2017 and 2018, and how despite those revelations the bank is lacking "a formal and effective anti-corruption framework." The audit notes continued shortcomings in the compliance department, which still lacks the required technical tools, resources, and training for proper oversight. Notably, the audit finds important shortcomings in the bank KYC framework and execution and the anti-money laundering and counter-terrorism financing framework in general. And despite the noted violation in previous audits, the the documentation of correspondent banking relationships had not been updated or improved. Similar to the previous audit, the 2018 audit finds that while two correspondent banking relationships exist (now only BMCE and BGFIBank Europe), BGFIBank DRC lacked most required documentation about the correspondent banking relationships. Importantly, the bank lacked information about the correspondent banks' AML frameworks and the auditors could find no evidence that annual evaluations of the relationships had been implemented.

Overall, the audits across multiple years provide clear evidence of insufficient compliance efforts and implementation of AML/CFT frameworks on the side of BGFIBank DRC and violations

[19] "TPA Audit du risque de non-conformitè 03-22-2016"
[20] "TPA Audit du risque de non-conformitè 28-8-2018"

of regulations in the establishment and upkeep of correspondent banking relationships. The correspondent banks that stepped in after the de-risking event were no less vigilant than those that preceded them. Rather the audits reveal a near complete lack of attention to AML compliance among any of the correspondent banking relationships, both before and following the de-risking event. Even as some foreign banks pulling bank from BGFIBank-DRC due to reputation risk, business continued as usual.

6 Conclusion

International banks regularly turn to de-risking as a way to mitigate the compliance burden caused by serving jurisdictions with weak AML enforcement. Using leaked internal records from BGFIBank DRC, we provide some of the first evidence that such de-risking efforts actually mitigated the flow of suspicious money out of a targeted bank. In the case of BGIBank-DRC, the severing of correspondent ties with two large correspondent banks, Commerzbank and FIM Bank, in 2016 did not affect the number or volume of foreign transactions by clients identified as suspicious based on investigative reporting, internal bank documents, or their reliance on cash deposits. Neither the volume nor the number of foreign wires changed among clients, with difference-in-differences estimates are precise enough to rule out effects of any meaningful size. These clients were able to continue transacting since within weeks of the de-risking episode, since the bank's parent (BGFI Bank International in France) and another regional bank stepped in to replace the departing correspondents. Alongside this null result, we also establish how cash dependence strongly predicts subsequent large foreign wires, a pattern that holds for no other types of client deposits and which is consistent with risk indicators for trade-based money laundering identified by Financial Action Task Force and Egmont Group of Financial Intelligence Units (2021). Such a measure can be easily constructed using any set of transaction-level bank records and may be of use to investigators and regulators beyond this case.

The absence of an effect stands in contrast to findings on other AML interventions in the literature, which show that measures binding an entire market do change the behaviour of those seeking anonymity (Agarwal et al., 2025; Amberger et al., 2025; Colella et al., 2024). De-risking is done by individual private actors, and does not involve place binding constraints on other participants in the market. Where substitute banks exist, which for a bank like BGFIBank DRC appeared quickly due to its parent structure and size, the severing of correspondent banking ties changed only the entity clears the payments and little else from a compliance perspective. Sec-

ond, de-risking imposes no new cost on the end client. Moreover, the loss of the Commerzbank relationships did not materially affect the cost of executing wires. De-risking thus impacts the integration of Global South economies with the rest of the world beyond the reduced exports and firm growth identified by Borchert et al. (2024). Our results suggest that these negative effects are not offset by a corresponding benefit in the form of reduced illicit flows, at least where other correspondents are available to step in. Instructively, de-risking did not push financial activity into unregulated channels, but instead moved flows from one set of regulated banks to another.

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Appendix:

A Additional figures and tables

A.1 Cash deposits and money laundering

To demonstrate the connection between cash deposits and immediate foreign wires, we compare clients in aggregate by what share of the incoming credits to their account are made in cash (either CDF or USD) over the lifetime of the account (see Figure A2). Based on a simple regression, but controlling for a host of fixed effects, we find a strong correlation between the share of incoming money that is cash based and outgoing transfers to foreign banks.[21] A 10% point increase in the share of incoming credits in cash is associated with an increase of 6 percentage points in the share of all inter-bank wires that are outgoing to the rest of the world. In contrast, cash intensity does not predict outgoing payments to other banks in the DRC, and is negatively associated (mechanically) with incoming transfers.

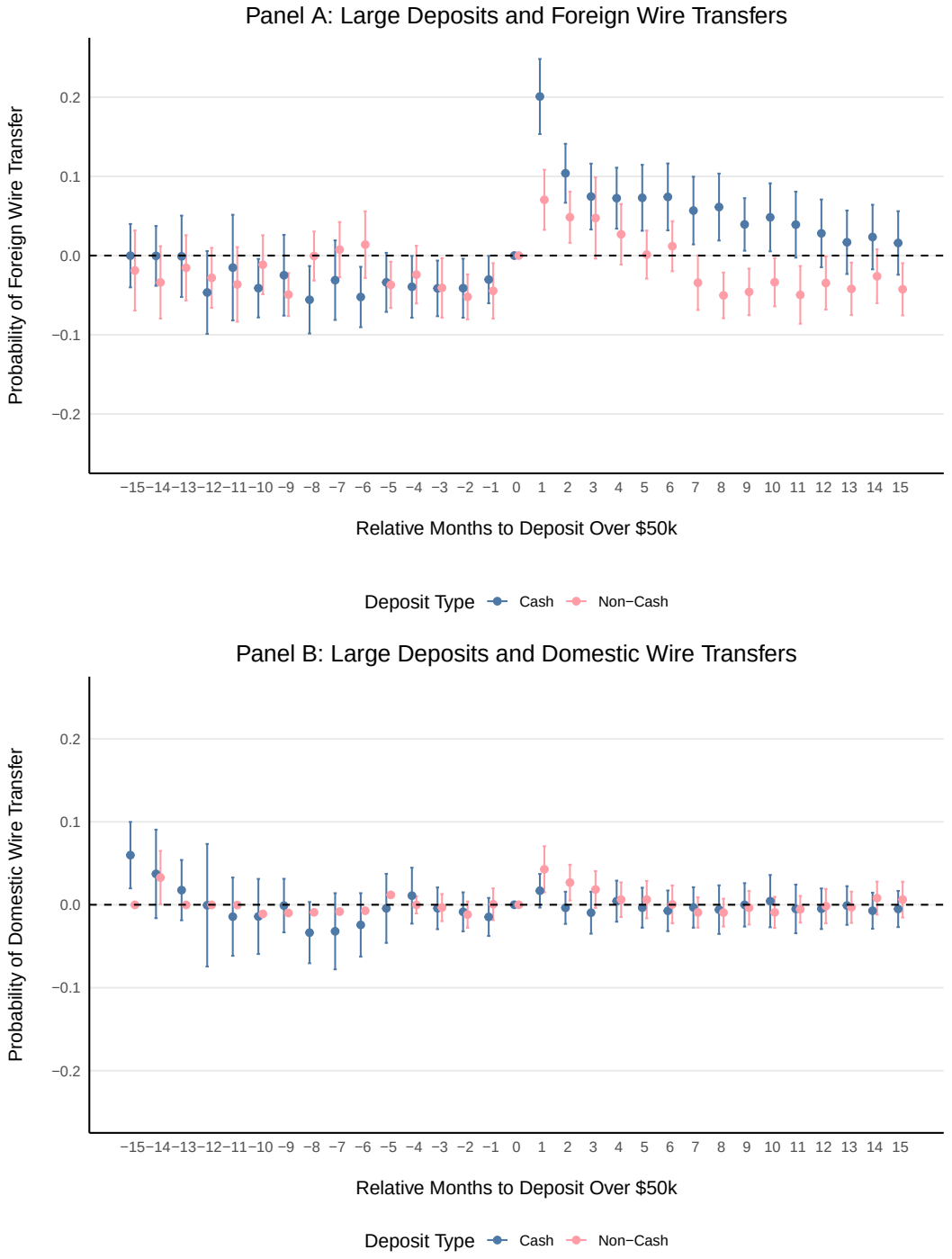
To test the timing of this practice systematically, we construct a client-month panel dataset with indicators capturing the incidence of (1) large cash deposits, (2) deposits other than in cash, (3) domestic wires (i.e. to another bank in the DRC), and (4) foreign wires (to banks outside the DRC). We define "large" transactions using a threshold of $50,000 in all three cases; but our results are robust to using a $10,000 cut-off for transaction as well. We then construct event studies following the methodology of De Chaisemartin and d'Haultfoeuille (2020), to account for both differential treatment timing and repeated treatments. Clients are defined as treated for any month where a large deposit was made, either in cash or non-cash. As outcomes, we create indictor variables that are coded one for any month in which large outgoing wire transfers — either foreign or domestic – are made.

Figure A1 shows the results of the four dynamic difference-in-differences models. Panel A shows the estimates with large non-cash and cash deposits as treatments and large foreign transfers as the outcome, whereas Panel B shows the same models but with large domestic transfers as the outcome. The results are quite stark: Large cash deposits are unique in that they are very quickly followed by large foreign wires out of the account. As Panel A shows, a large cash deposit increases the probability of a large foreign wire transfer by roughly 20% in the month immediately following. Although the estimated dynamic treatment effect drops off

[21] Specifically, we include fixed effects for the volume of total incoming credits, company business sector, quarter of account opening, bank branch, and account manager in the regression.

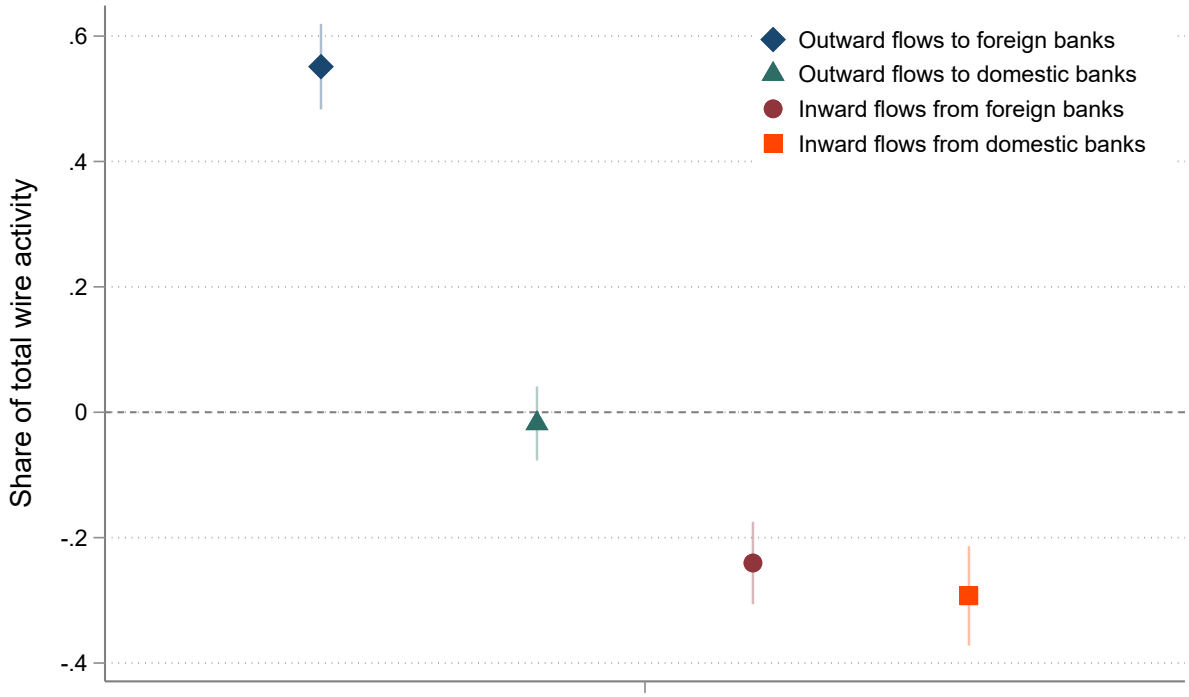
for the second month, it remains between 5% and 10% and statistically significant for almost a year after the large cash deposit. Cumulatively, a large cash deposit is associated with a very high probability of a large foreign wire transfer over the next twelve moths. In contrast, as Panel A also shows, other types of large deposits (e.g. bank transfers) also increase the likelihood of a foreign wire, but the estimated effect is substantially lower (roughly a 7% increase in the first month) and the estimated positive effect disappears within four months. Turning to Panel B with large outgoing domestic transfers as the outcome, we see the large cash deposits do not increase the probability of large domestic wires. The estimated effects are close to zero and not significant. In contrast, we observe a small effect of large non-cash deposits on domestic transfers in the three months immediately following the deposit.

Figure A1: Large Deposits and Wire Transfers



Notes: These figures present event studies showing the effect of large cash and non-cash deposits (over $50,000) on the probability of large wire transfers happening in the subsequent months. All analysis is done at the client-month level. Panel A examines the probability of large foreign (i.e. outside of the DRC) wire transfers leaving each account, while Panel B examines the probability of large domestic (i.e. to other banks within the DRC) wire transfers from each account. Standard errors are clustered at the client level.

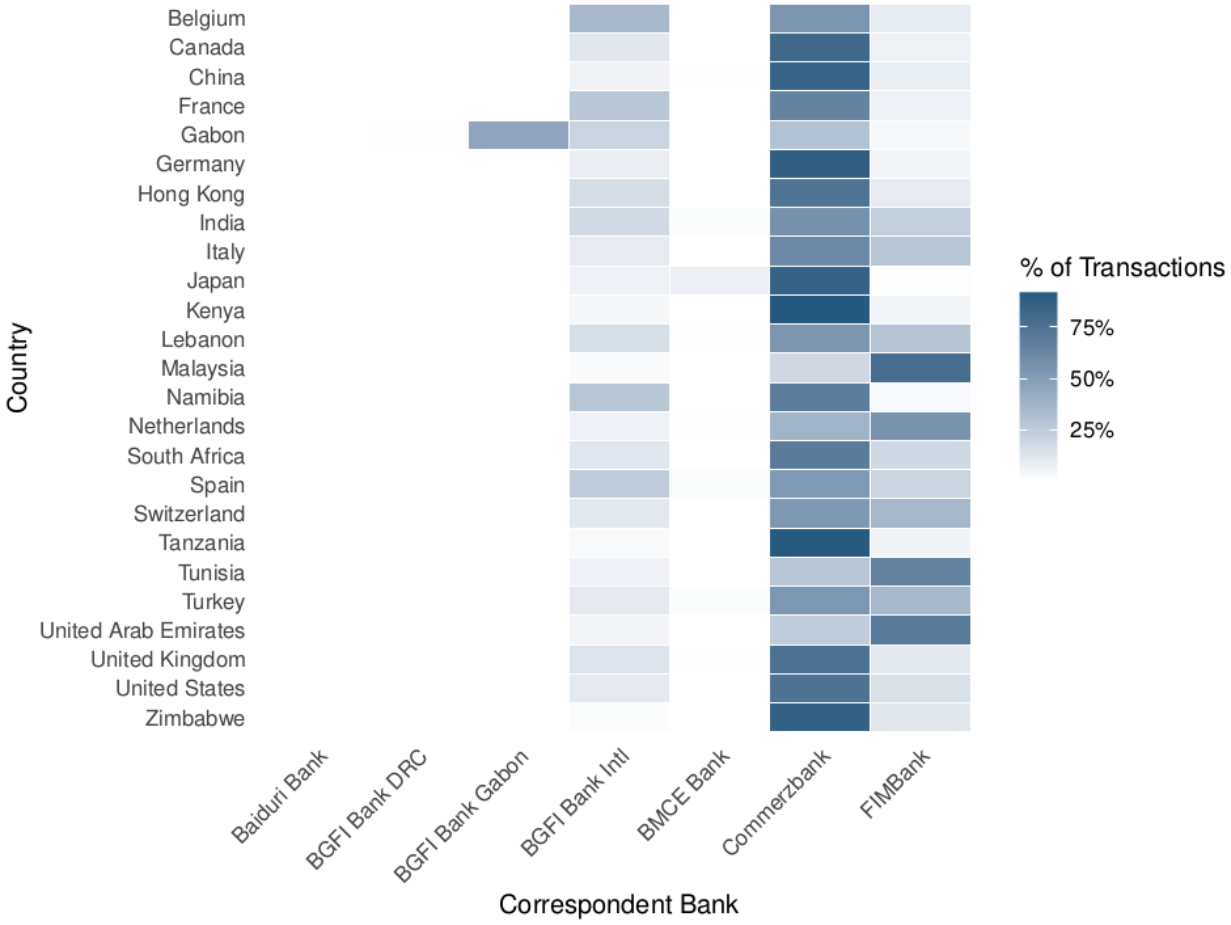
Figure A2: Partial correlation between incoming cash deposits and the direction of bank-to-bank transfers



Notes: This figure plots the coefficients from a regression of the share (in value) of all bank-to-bank transactions made by each corporate client over the lifetime of their account that are (i) foreign outgoing wires (ii) domestic outgoing wires, (iii) foreign incoming wires and (iv) domestic incoming wires. The independent variable of interest is the share of incoming credits the client receives as cash deposits. Included, but not shown, are fixed effects for the company's sector, the quarter the account opened, the total volume of incoming credits, the bank branch the account was based, and the account manager.

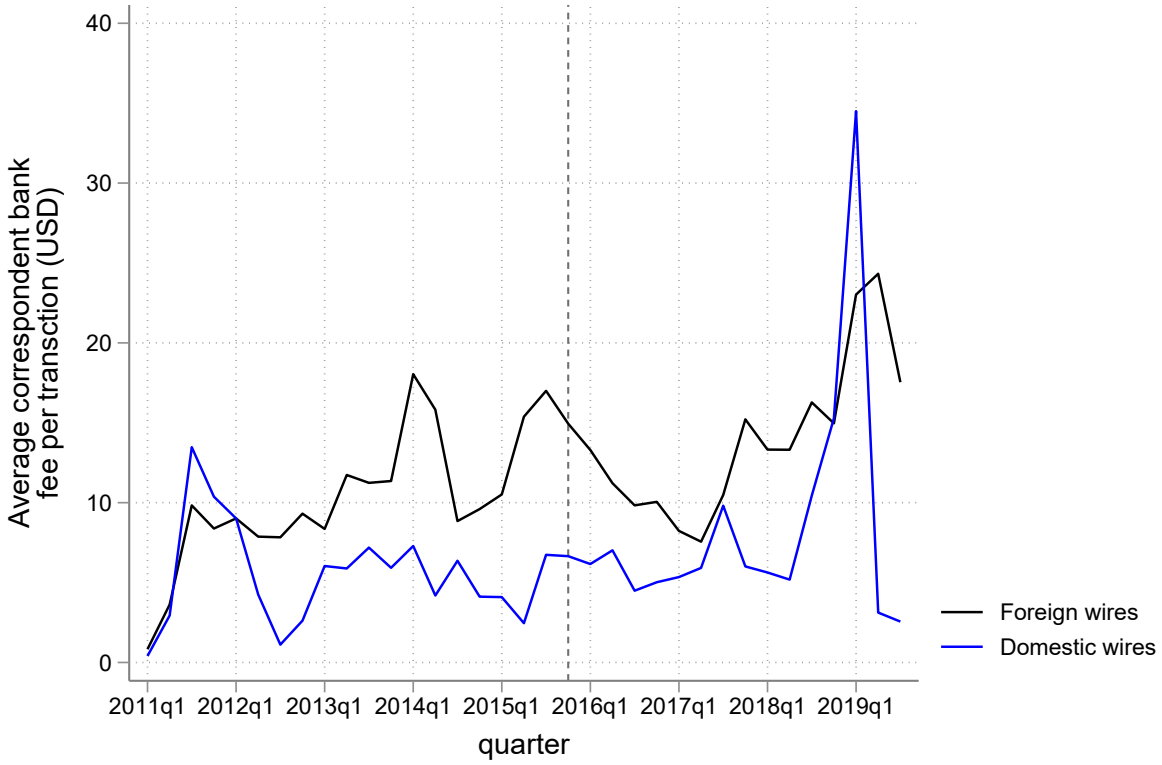
A.2 Correspondent Banking

Figure A3: Matching Correspondent Banks and Countries: Pre-de-risking



Notes: This plot shows the percentage of transactions from each of the top 25 country destinations that flow through different correspondent banks. The sample is restricted to the period before April 2016 (i.e. the de-risking event). Only correspondent banks active during that period are shown.

Figure A4: Average correspondent banking fees over time



Notes: This plot shows the average correspondent banking fee paid per outgoing wire transfer, per quarter (fees are winsorized at the 95th percentile)

A.3 Difference-in-Difference Tables

Table A1: Red-flagged Clients: DiD Results

	Transactions			Volume		
	Transactions (log)		Transactions	Volume (IHS)		Volume
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	Poisson	OLS	OLS	Poisson
Cash Dominant × Post-2016	0.093*	-0.066	0.571*	0.740*	-0.691	1.092**
	(0.049)	(0.075)	(0.320)	(0.426)	(0.649)	(0.430)
R^2	0.316	0.413		0.296	0.385	
Observations	9,888	9,888	9,888	9,888	9,888	9,888
Clients	206	206	206	206	206	206
Pre-trend test p-value			0			0
Pre-period mean, other clients	0.86	0.86	0.86	94,693	94,693	94,693
Client fixed effects	✓	✓	✓	✓	✓	✓
Month fixed effects	✓	✓	✓	✓	✓	✓
Trend × Client		✓			✓	

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. This table shows difference-in-differences specifications based on the interactions between a client being redflagged and an indicator for the months following the de-risking event in 2016. Columns 1 to 3 analyze the number of transactions, while Columns 4 to 6 look at total transaction volume. The outcome in columns 1 and 2 uses a the log plus one transformation, and columns 4 and 5 use the inverse hyperbolic sine of volume. Poisson pseudo-maximum likelihood models are used on the the raw outcomes in Columns 3 and 6. Standard errors are clustered by client .

Table A2: Cash Dominant Clients: DiD Results

	Transactions			Volume		
	Transactions (log)		Transactions	Volume (IHS)		Volume
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	Poisson	OLS	OLS	Poisson
Cash Dominant × Post-2016	0.093*	-0.066	0.571*	0.740*	-0.691	1.092**
	(0.049)	(0.075)	(0.320)	(0.426)	(0.649)	(0.430)
R^2	0.316	0.413		0.296	0.385	
Observations	9,888	9,888	9,888	9,888	9,888	9,888
Clients	206	206	206	206	206	206
Pre-trend test p-value			0			0
Pre-period mean, other clients	0.86	0.86	0.86	94,693	94,693	94,693
Client fixed effects	✓	✓	✓	✓	✓	✓
Month fixed effects	✓	✓	✓	✓	✓	✓
Trend × Client		✓			✓	

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. This table shows difference-in-differences specifications based on the interactions between a cash dominant client and an indicator for the months following the de-risking event in 2016. Columns 1 to 3 analyze the number of transactions, while Columns 4 to 6 look at total transaction volume. The outcome in columns 1 and 2 uses a the log plus one transformation, and columns 4 and 5 use the inverse hyperbolic sine of volume. Poisson pseudo-maximum likelihood models are used on the the raw outcomes in Columns 3 and 6. Standard errors are clustered by client .