

# What lies beneath

## Evidence from leaked account data on how elites use offshore banking

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# What lies beneath: evidence from leaked account data on how elites use offshore banking

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## Abstract

This paper uses account data leaked from an Isle of Man bank to investigate the characteristics of individuals and firms that store their money in tax havens. Using internal documents that assign the ultimate ownership of companies and trusts that held deposits at the bank, I establish three things: first, most customers are from rich countries and are likely to be from the upper end of the income and wealth distributions of those countries. Second, I show that a non-negligible amount of offshore wealth is connected to a small number of political elites (so called politically-exposed persons). On average, these accounts have substantially higher balances and are more likely to receive payments from other tax havens, which is consistent with politically-exposed persons having access to more resources than the average offshore client while also desiring to obscure that ownership. Finally, I show that a substantial proportion of bank deposits are obscured from publicly-available statistics published by the Bank of International Settlements which are commonly used to measure offshore wealth. When I correctly assign deposits to their ultimate beneficial owner, offshore bank deposits owned by residents of tax havens drops by up to 32% and deposits held by residents of non-havens doubles. I conclude with recommendations on how reporting requirements need to change to improve the ability of regulators and the research community to detect and counter illicit finance.

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# 1 Introduction

Wealth can travel around the world with relative ease, but a government’s ability to keep track of it is largely confined to its own borders. It is this information asymmetry that gives rise to a host of problems, the first of which is the ability of people to evade taxation by parking their wealth in other jurisdictions, away from the prying eyes of the tax authority. Recent evidence suggests that random audits of wealthy individuals routinely underestimate tax evasion by those who keep some of their money offshore ([Alstadsæter, Johannesen, and Zucman 2019a](#); [Guyton, Langetieg, Reck, Risch, and Zucman 2021](#)). Not only is the amount of offshore wealth that goes undeclared to tax authorities likely to be substantial ([Alstadsæter, Johannesen, and Zucman 2018](#)), the fact that the rich are more likely to engage in this behavior ([Alstadsæter, Johannesen, and Zucman 2019a](#); [Londoño-Vélez and Ávila-Mahecha 2021](#); [Lenders, Lejour, Rabaté, and van’t Riet 2020](#)) suggests that efforts to curb inequality through taxation be ineffective until authorities improve their ability to observe their taxpayers’ worldwide income and wealth.

A second, interrelated, problem is the fact that political elites and their associates who wish to abuse their public office or political power for private gain can pull this off more successfully when the gains are accrued offshore. It is easier to deny you have amassed a lot of wealth while in office when your government lacks the ability to observe what you own overseas and there is no local, conspicuous pot of money that someone can point to. This behavior is rife enough to be observable in international statistics: when high-corruption countries receive an influx of oil-revenue or foreign aid, offshore wealth owned by its residents surges ([Andersen, Johannesen, Lassen, and Paltseva 2017](#); [Johannesen, Andersen, and Rijkers 2020](#)).

The presence of offshore financial centers (OFCs) - colloquially known as tax havens - complicates the information asymmetry problem even more. Historically, many havens have offered both a low level of taxation and a high degree of financial secrecy: laws and policies that make very difficult for anyone, governments included, to understand who owns what. Ironically, the most concrete evidence that many OFCs have acted as havens for tax evaders has been generated by their gradual embrace of transparency: several studies have shown that foreign deposits held in these jurisdictions decline sharply after they sign agreements to share information on these deposits with foreign tax authorities ([Johannesen and Zucman 2014](#); [Beer, Coelho, and Leduc 2019](#); [Menkhoff and Miethe 2019](#); [O’Reilly, Ramirez, and Stemmer 2019](#); [Casi, Spengel, and Stage 2020](#)). Today, traditional small-island havens have been joined by some of the world’s biggest economies - such as the US - as the destination for untaxed and corrupt wealth ([Van der Does de Willebois et al. 2011](#); [Findley et al. 2014](#);

Casi et al. 2020). In both old and new destinations of illicit finance, multiple, overlapping legal structures that obscure the true owner of wealth (such as shell companies or trusts) are a common means to maintaining secrecy.

Researchers face the same information asymmetry problem that governments do: our attempts to understand how people evade tax and how they engage with the offshore financial center are hampered by the fact that most of this behavior is hidden by its very nature. Most research thus relies on either publicly-available, aggregate statistics or confidential data from tax authorities to understand how the offshore world functions and how taxpayers interact with it. These approaches are highly useful, but they are also incomplete: trying to understand what is happening to offshore wealth via these methods is analogous to sitting on a boat and inferring what is happening underwater by observing how the waves change (or sporadically interviewing people who swim to the surface).

Occasionally though we get a peek beneath the waves: over the past decade there has been a surge in high-profile leaks of data from banks based in tax havens and from the service providers that help people and companies organize their affairs offshore. The most high profile of these was the leak of customer information from the Panamanian law firm Mossack Fonseca (the Panama Papers). These offer an unprecedented opportunity to better understand how people hide their money in tax havens. Yet, possibly because they are often limited in both their scope and in what they can measure, few studies have relied on aggregated data from these leaks to directly understand the impact of policy (see Caruana-Galizia and Caruana-Galizia (2016) and Omartian (2017) for examples of those that have).<sup>1</sup>

This paper takes a long dive beneath the surface: it uses data leaked from a bank incorporated in the Isle of Man - one that was a popular destination for high net worth individuals - to better understand who holds their money in offshore financial centers and how well our methods of measuring it may be working. The advantage of using leaked data is that, in many instances, it allows me to peer through the opaque legal structures that dominate the financial industry to establish the owners of a large share of accounts, as recorded by the bank.

In doing so, I establish three descriptive results. The first is that the clients of offshore banks are likely to be rich, both in that they reside in rich countries and that they are likely to be from the upper-end of the income and wealth distribution in those same countries.

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<sup>1</sup>In addition to these, Londoño-Velez and Ávila-Mahecha (2020) , Londoño-Velez and Ávila-Mahecha (2021) and (Alstadsæter, Johannesen, and Zucman 2019a) match names from these leaks to administrative data, but most of their analyses do not exploit the structure of the Panama Papers data in any substantial way (although Londoño-Velez and Ávila-Mahecha (2020) does use information on the date an offshore company was incorporated to study the effects of moving wealth offshore on what gets reported to the tax authority back home).



While this is not a novel, earth-shattering finding, it reinforces growing evidence coming out of a number of countries that offshore banking is a luxury service and thus, to the extent that it is being used to evade or avoid tax, it has major implications for the ability of societies to fight inequality and raise revenue through progressive taxation.

The second is that a significant share of offshore deposits are controlled by clients who are connected to politically-influential people, such as current and former politicians, their family and friends. A number of these are from countries that score poorly on popular measures of corruption risk. These politically-exposed clients not only hold greater amounts of wealth than the average offshore client, but they are also more likely to have an address in a tax haven and are more likely to receive money into their accounts from accounts in other tax havens, all signs that significantly raise the risk that these clients have access to higher levels of wealth and are more willing to engage in activity that obscures their ownership of it. This is despite the fact that these clients were all successfully identified and were monitored by the bank in question.

The third result is that the legal arrangements that most customers of offshore banks used to organize their affairs, shell companies and trusts, interfere with the ability of popular measures of cross-border liabilities to measure offshore wealth. A growing amount of work on the level and determinants of offshore deposits relies on data from the Bank of International Settlements's Locational Banking Statistics (BIS LBS), which assigns ownership of deposits based on the immediate counterparty. In practice, this means that deposits owned by shell companies based in tax havens will be assigned to those havens, rather than to the location of the ultimate owner, a limitation widely recognized (and occasionally exploited) by researchers working in this space ([Johannesen and Zucman 2014](#); [Casi, Spengel, and Stage 2020](#)). Using data on the ultimate owner of banks deposits from the leak combined with reports prepared for the LBS, I show that over half of deposits are controlled by entities based in tax havens and that many of these are incorrectly assigned as being haven deposits, despite being controlled by residents of non-haven jurisdictions. This not only implies that our measures of non-bank cross-border liabilities may be distorted by the presence of tax havens, it might also bias studies on the impact of transparency initiatives in ways that are hard to bound.

The paper is organized as follows: in Section 2, I discuss the Isle of Man's role in the offshore financial sector, the data breach that I rely on for this paper, and aggregate descriptive statistics on both the clients and trends in deposits. In Section 3 I discuss the distribution of clients across countries and their levels of wealth. Section 4 presents the results on accounts maintained by clients with connections to politically-influential people. Section 5 discusses the results on the measurement of offshore wealth. I discuss potential policy solutions and conclude with Section 6.

## 2 Background and data

### 2.1 The Isle of Man

The Isle of Man is one of three British Crown dependencies, self-governing jurisdictions situated around the British Isles. It has been classified as an “offshore financial centre” (OFC) by the International Monetary Fund (IMF), a designation for jurisdictions that have a banking sector largely oriented towards non-residents, very high levels of external assets and liabilities relative to the size of the economy, and services that make them particularly attractive for foreign wealth and profits, such as low levels of taxation, regulation or transparency.<sup>2</sup> With the exception of banking and retail businesses based on the island, which are taxed at 10%, most corporate income goes untaxed.<sup>3</sup> Top marginal income tax rates for residents are 20%.

The jurisdiction is considered by many to be a tax haven. Two decades ago the OECD listed it as such in an effort to get it to commit to exchange of information for tax purposes (OECD 2000). In the first publication of its most recent ‘grey’ and ‘black’ lists, the European Union flagged the Isle of Man for “existence of tax regimes that facilitate offshore structures which attract profits without real economic activity.” It ranks 20 out of 70 in the latest edition of the Tax Justice Network’s Corporate Tax Haven Index (Ates et al. 2020) and 43 out of 133 in its Financial Secrecy Index (Tax Justice Network 2020), two measures aimed at understanding how popular a jurisdiction is for hiding one’s wealth or for profit shifting.

Like many offshore financial centers, the Isle of Man has adopted a number of policies over the past decade aimed at curbing these behaviors, including many of the ‘minimum standards’ proposed by the OECD as part of its Base Erosion and Profit Shifting (BEPS) project as well as various forms of automatic-exchange-of information for tax purposes (AEOI). For the former, it is unclear at this stage whether this had made a major dent in profit shifting: Tørsløv, Wier, and Zucman (2020) calculate that in 2015 nearly 80% of the \$3.1 billion in corporate profits that were booked on the Isle were artificially-shifted profits. The Isle also continues to be relatively attractive to foreign banks: as of December, 2020, over 60% of the number of active banks in the jurisdiction are foreign banks with no local incorporation. Using data from country-by-country reporting (CbCr) reports from EU banks, Delatte, Capelle-blancard, and Bouvatier (2021) show that tax havens accommodate three times as many foreign-owned banks as other jurisdictions.

Despite this, there are signs that offshore banking is on the wane, as the past decade has seen a steady decline in banking deposits controlled by foreigners. Figure 1(a) displays

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<sup>2</sup>The IMF has since retired the term OFC, after integrating its OFC assessment program into its Financial Sector Assessment Program (FSAP).

<sup>3</sup>Businesses are only taxed if they make more than half a million GBP in profit in a given year.

the sum of all non-bank cross-border deposits as measured by the BIS’s Locational Banking Statistics.<sup>4</sup> Foreign-owned deposits have been declining steadily since the financial crisis, a trend that is likely attributable to a number of transparency regimes adopted by the Isle of Man during this period. This includes the signing of a number of tax exchange-of-information on request agreements and the arrival of both the US’s Foreign Account Tax Compliance Act (FATCA) and the OECD’s Common Reporting Standard (CRS) for the automatic exchange-of-information, all policies aimed at allowing foreign tax authority to better observe wealth being held on the Isle. Irrespective of the acronym, each of these initiatives has been shown to have a causal impact on the amount of offshore deposits controlled by foreigners (Johannessen and Zucman 2014; Beer et al. 2019; Menkhoff and Miethe 2019; O’Reilly et al. 2019; Cusi et al. 2020). The BIS also collects information on locally held non-bank deposits - money controlled by people and entities registered as being in the Isle of Man. These saw a sharp rise in the early 2010s, around the time many of these transparency initiatives were adopted. This may be driven in part by the use of offshore companies or entities like trusts to obscure the ownership of bank deposits from the prying eyes of foreign tax authorities.

Another feature of the Isle of Man’s banking sector is the steady decline in the number of deposit-taking institutions over the past two decades. Figure 1(b) shows how, since 2004, the number of banks has declined from nearly 60 to 11. This has led to a concentration in the market for offshore services. The distribution of foreign deposits across these eleven banks is not available, but the average amount of deposits held by each bank has increased since a decade ago.

## 2.2 Leaked customer data from an offshore bank

On November 16th, 2019, the journalist collective Distributed Denial of Secrets (DDOS) [announced](#) it had made available data obtained from the Cayman National Bank and Trust, Isle of Man (henceforth CNBIOM) a subsidiary of the Cayman Island-based Cayman National Corporation. The data has purportedly been obtained by a hacker or hacker collective known as Phineas Phisher, who hacked CNBIOM and turned over the data to DDOS.<sup>5</sup>

DDOS dubbed the leaks “Sherwood” and made CNBIOM’s data available to the public in two formats: one was a searchable database of files and e-mails hosted on their “Hunter Memorial Library” platform, a search engine where files can be looked up via their contents.<sup>6</sup> The second format was the leaked data in its entirety: the contents of several dozen hard drive images taken from CNBIOM’s servers.

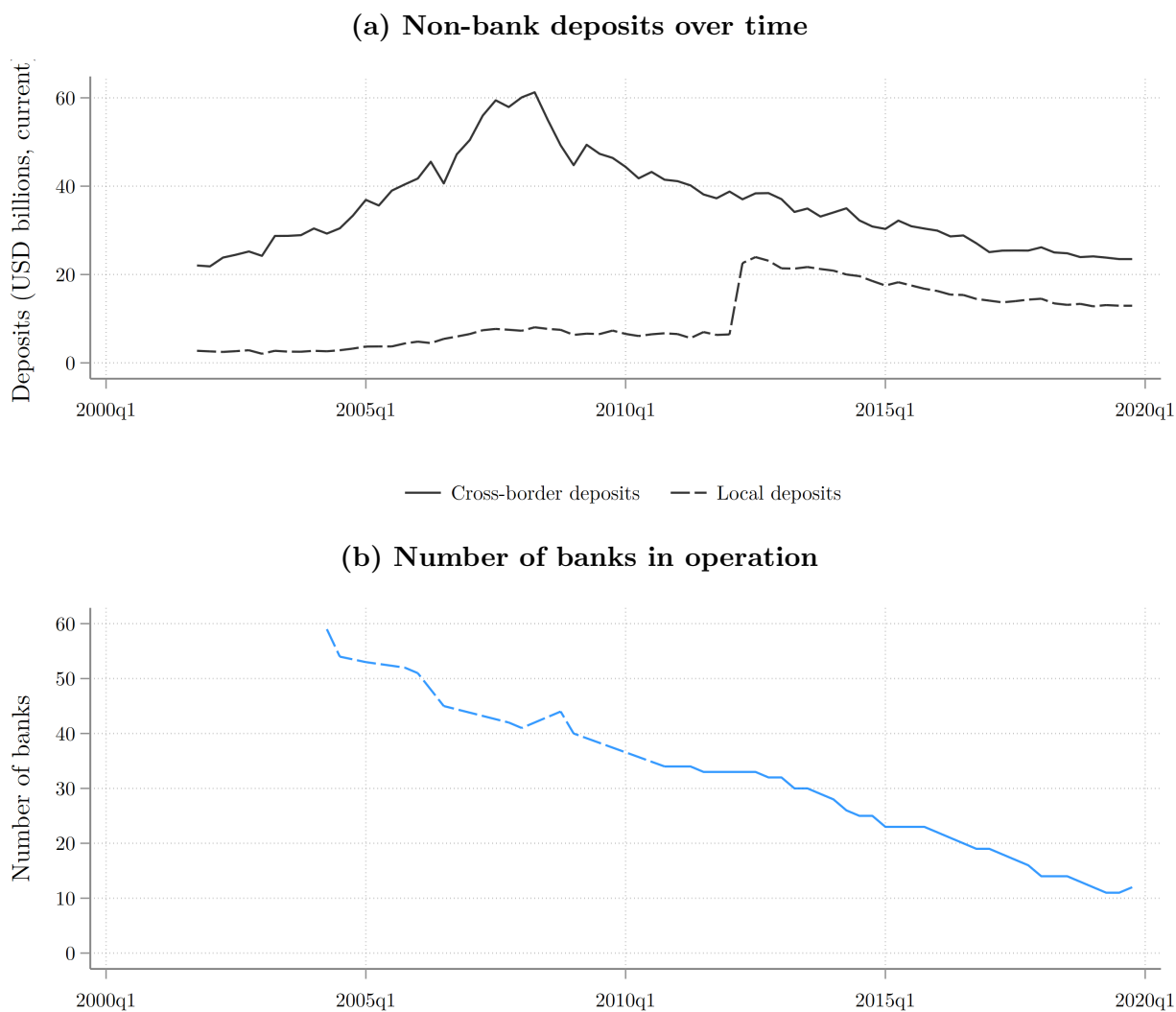
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<sup>4</sup>Printer friendly versions of all figures and graphs can be found [here](#)

<sup>5</sup><https://unicornriot.ninja/2019/massive-hack-strikes-offshore-cayman-national-bank-and-trust/>

<sup>6</sup>The Hunter Memorial library was available at <https://hunter.ddosecrets.com/> until June, 2020.

**Figure 1: Trends in the Isle of Man's offshore financial sector over time**



**Source:** Figure 1 (a) shows the total amount of non-bank cross-border liabilities (deposits) recorded by the Bank of International Settlements in its [Locational Banking Statistics](#) for the Isle of Man, compared with the total amount of local non-bank liabilities. Figure 1 (b) shows the total number of banks in operation in the Isle of Man. The dotted line are estimates taken from archives of the now-defunct Financial Supervision Commission's website using the Internet Archive's [Wayback Machine](#), estimates from 2010 and onward are reported directly by the Isle of Man's Financial Services Authority (FSA) in their Quarterly Statistical Banking Bulletin.

Those hard drive images contained both working documents maintained by CNBIOM staff as well as snapshots, from 2016 and 2019 of the databases the bank used to maintain its customer records. From those databases I have reconstructed monthly and quarterly account estimates, in USD, for every customer from 2008 until late 2019.<sup>7</sup> I can also observe the date of each account’s closure, as well as the date when any given customer closes their last account with the bank. I can also observe precise changes to account balances: for example, whether an increase in the balance is due to interest, capital gains, wire transfers in and out, or inter-account transfers. However, except for a 14 month period between mid-2018 and 2019, I am unable to observe the originating or destination jurisdiction for wire transfers.

In addition to account balances, the data also contains up-to-date records on many different characteristics pertinent to each client’s tax jurisdiction. These include correspondence addresses, ‘domicilia’ indicators (e.g. passports, tax identifier numbers, reported birth locations) and registered beneficial owners and beneficiaries (for companies and some trusts). There is also a register of politically-exposed persons (PEPs) and high profile individuals (HPIs) that CNBIOM maintained to keep tabs on those who were potentially higher-risk clients. In that register are lists of PEPs/HPIs, their nationality, the date they were identified and the the clients they are associated with.

In addition to customer data, in the files leaked from CNBIOM’s servers are quarterly reports prepared by the bank for the BIS’s Locational Banking Statistics (LBS). The LBS aggregates information from 49 reporting jurisdictions on foreign claims and liabilities from over 200 counterpart jurisdictions around the world. It forms the basis of most cross-country analyses of the impact of information exchange on offshore wealth ([Johannesen and Zucman 2014](#); [Menkhoff and Miethe 2019](#); [Beer, Coelho, and Leduc 2019](#); [O’Reilly, Ramirez, and Stemmer 2019](#); [Casi, Spengel, and Stage 2020](#)).

Importantly, the leaked data includes detailed Excel files that CNBIOM staff appeared to use to compile BIS reports from its underlying customer data. This allows me to understand not only how much offshore wealth CNBIOM assigns to France, for example, but it allows me to observe precisely which customers the bank assigned to France when compiling its reports. Thus I can experiment with how changing this assignment decision might affect the statistics being reported. The bank appeared to use its ‘default’ jurisdiction for all of its clients, which in most cases was the same as a customer’s primary address. However, I can instead investigate how using the jurisdiction of an accounts beneficial owner to assign ownership would change aggregate reporting. This allows me to look further into the source

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<sup>7</sup>While most customers hold account balances in GBP, many hold a variety of different currencies. Using exchange rates maintained by the Bank of International Settlements, I have converted all bank balances into USD. These are very close to CNBIOM’s own exchange rates - but offer more complete coverage of the calendar year.

of ownership than BIS statistics are normally allowed to and investigate how the way that banks classify their clients might affect estimates of the impact of AEOI, but also aggregate estimates of offshore wealth.

A more substantive breakdown of how data was processed is described in the [Online Appendix](#). With the exception of persons who have already been identified in media stories, no customer-identifiable information is reported in this paper, nor in the appendix.

A final disclaimer: the results in this paper are all estimates using various data sources available in the leak, combined and aggregated in a multitude of different ways in a good faith effort to replicate as close as possible the actual account details and characteristics of the underlying customer base.<sup>8</sup> But as recent evidence as shown, two different researchers can make small, seemingly-innocuous decisions which can lead to different estimates ([Huntington-Klein et al. 2020](#)). Because of this, the results in this paper should be treated as estimates, and not definitive statements about the accounts of CNBIOM.

## 2.3 The ethics of using leaked data

The use of leaked data in academic and policy publications is becoming more common, particularly in the space of cross-border tax evasion and corruption. Recent examples include [Caruana-Galizia and Caruana-Galizia \(2016\)](#), [Omartian \(2017\)](#), [Alstadsæter, Johannesen, and Zucman \(2019a\)](#) and [Londoño-Velez and Ávila-Mahecha \(2020\)](#)’s use of both aggregate and individual-identifiable information in the Panama Papers, and [Mironov and Zhuravskaya \(2016\)](#)’s use of leaked bank transfer data from Russia. Despite this, most publications do not actively explore the ethical considerations of its use nor cite efforts to reduce potential harms ([Thomas, Pastrana, Hutchings, Clayton, and Beresford 2017](#)). In this subsection I consider the reasons why I believe the use of this data is ethical. For a complete ethics statement which delves into all possible considerations, please see the [Online Ethics Statement](#).

This research project is predicated on the fact that there is a very strong public interest argument for the use of data that better helps us understand how tax havens and their clients operate and the degree to which policies aimed at curbing tax evasion and avoidance are working. Tax revenue is used to fund public services, and by most accounts is a crucial building block of a well-functioning society. Recent estimates put the amount of offshore wealth being held in tax havens at roughly 8% of all household wealth ([Zucman 2013](#)). Until the advent of automatic-exchange-of-information agreements, much of this wealth went

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<sup>8</sup>For example, as described in the [Online Appendix](#), I am unable to exactly replicate the customer deposit balances that CNBIOM reports in its annual financial statements, although my estimates typically fall within a few million dollars. These differences will be driven to different exchange rates being applied, small differences in the base exchange rate for some client accounts, and different decisions over which accounts are being included in those headline numbers.

unreported to tax authorities, who struggle to detect offshore earnings even when auditing taxpayers (Alstadsæter, Johannesen, and Zucman 2019a). It is on the strength of the public interest rationale that several media outlets and civil society organizations have seen it fit to download, analyze and report on this data, including [The Guardian](#), the [Organized Crime and Corruption Reporting Project](#), [Global Witness](#), [Transparency International](#), [The Times](#), [McClatchy Media](#) and the [Investigative Reporting Project of Italy](#). As reported in the [Brussels Times](#), even the Belgian government appears to have downloaded and analyzed the data.

The ethical bar for analyzing information from a leak is arguably higher for the research community, particularly because informed consent cannot be reasonably obtained from those whose information has been leaked. However, the data leaked by Distributed Denial of Secrets has been freely available - without interruption - since November of 2019. In addition to the hard drive data, several websites such as Unicorn Riot have shared spreadsheets with detailed customer information. Thus the data is public in every sense of the word and would not qualify as private identifiable information.

Crucially, each of CNBIOM's customers are likely to be fully aware of the nature of the data leak. CNBIOM has issued statements on its website indicating it is contacting each of their customers to ensure they take appropriate measures to prevent identity thread or fraud.

While the scope of any additional harm from using this data is extremely unlikely, I have taken steps to minimize the chance that any machine-readable or easily-accessible information from the leak is obtained. These are also describe in the Online Ethics Statement. This paper will not present any information that could be used to precisely identify an individual from the leak, with the exception being individuals who have already been reported on in the public media.

## 2.4 How representative and accurate is the data?

Despite being only one of eleven banks currently in operation in the Isle of Man, CNBIOM has a relatively smaller share of the private and corporate banking market. Its latest financial statement indicated that, as of September 2019 (roughly the time of the data leak) it had approximately £110 million in customer deposits - around \$135 million dollars. In the fourth quarter of 2019, the Bank of International Settlements reports that *non-bank* deposits exceeded \$36 billion, indicating that CNBIOM only serves a tiny fraction of the entire market. However it is unclear if this is an entirely fair comparison: CNBIOM appears to serve mainly individual clients, relatively small companies and trusts, while non-bank deposits included



in the BIS will encompass shifted profits by large multinational companies who rely on big international banks to maintain their affairs.

To better understand how reflective the data is of Isle of Man’s offshore economy, Figure A2(a) and (b) in the [Online Appendix](#) compares the share of cross-border CNBIOM deposits claimed by residents of different jurisdictions to the share of all Isle of Man deposits claimed by residents of different jurisdictions, as reported by CNBIOM and BIS respectively. In the first quarter of 2013, there is a large divergence in these shares: CNBIOM had a relatively higher share of deposits associated<sup>9</sup> with tax havens such as the Cayman islands, Cyprus, St. Lucia and the “West Indies.”<sup>10</sup> However the differences are less stark six years later, in the first quarter of 2019. In fact, as shown in Figure A2(c) the correlation between the share of cross-border deposits assigned to a jurisdiction in the CNBIOM data and the share assigned in the BIS data is increasing over much of the study period, suggesting that over time CNBIOM’s customer base is becoming more and more reflective of the offshore Isle of Man customer base overall.

There may also be concerns that the data might not be accurate. This could be because the data in the leak - or elements of it - has been fabricated, although this seems unlikely. First, while CNBIOM has not specifically acknowledged that the data being hosted by distributed Denial of Secrets is precisely the data that was obtained through the hack, they have never denied that the data was the same that came from their hack, nor have they done so in response to any of the media reports made using the leaked data. Second, throughout the process of assembling and understanding the data, I have spot-checked a large number of clients using third party sources, ranging from the Isle of Man’s company registry, Open Corporates, the UK’s Companies House database, to media reports on individual clients.

Where the accuracy of the data might be more likely to falter will be in instances where CNBIOM was limited in its ability to accurately capture information on its customers. For example, customers might misrepresent themselves to the bank or someone at the bank might fail to record a vital piece of information. It goes beyond the scope of this paper to comprehensively identify where the bank’s systems might have fallen short in this regard,<sup>11</sup> but because the information set a bank has to work with is vitally important for the process of curbing tax evasion and money laundering, future work will focus more more on this.

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<sup>9</sup>The jurisdictions associated with these deposits are taking the residence of the account as given - e.g. a Cayman islands company is treated as being in the Cayman Islands, ignoring the residence of the ultimate beneficial owner. In Section 5, we will explore what happens when we move past the immediate residence of shell companies.

<sup>10</sup>The BIS groups these jurisdictions together under this moniker and the ISO Code 1Z: Anguilla, Antigua and Barbuda, the British Virgin Islands, Montserrat and St. Kitts/Nevis.

<sup>11</sup>For example, systematically uncovering weakness in the beneficial ownership registry would require access to third party information, some of which is not currently made available to the public.

## 2.5 The leaked data at a glance

The data contains information on approximately 4,500 clients of CNBIOM: any of those who held an account between the beginning of 2008 and October, 2019, the month before it was leaked to the internet.

Figure 2(a) displays estimates of the aggregate account balances for all customers at the bank. There are three main types of account of note: (i) deposit accounts, which include current (checking) accounts, disbursement accounts and fixed day noticed accounts, (ii) investment accounts, comprising mostly mutual funds and stocks, which are typically managed by investment firms on behalf of external clients and (iii) loan accounts.<sup>12</sup> Deposits balances at the bank peaked at around \$217m (£170m) in late 2016. Total loan balances peaked in early 2011 at around \$50m. Investment accounts, only apparently having been introduced in 2013, rose to over \$200m in value in 2015, with several spikes, likely due to a fact that a significant share of investments are made in US-based hedge funds that experienced significant market volatility, particularly around the time of Brexit. Because of this volatility and the fact that these were held by a small number of high net worth individuals, I largely exclude these accounts from the analysis.

Figure 2(b) shows the proportion of deposits held by different types of customers, of which CNBIOM had six: individuals, companies, trusts, funds, foundations and partnerships. I will focus primarily on the first three, as the latter three only made up a handful of clients at the bank. Over the past decade, the majority of deposits are held by both companies and trusts, rather than individuals. Although trusts comprised most of the growth in deposits in the late 2000s and early 2010s, there was a long term decline in trust balances throughout much of the last decade. This is likely driven by the decline in popularity of a particular type of offshore trust - the Employer Financed Retirement Benefit Scheme (EFRBS) - that fell out of favor after a crackdown by HMRC, the UK's revenue authority.

Table 1 displays descriptive statistics for clients who maintained *active* accounts through the period 2008-2019,<sup>13</sup> which comprise nearly 400 individuals, over 1,200 companies and over 800 trusts. The average individual had roughly \$262,000 in deposits at its peak end-of-month value, and around \$70,000 at its median end-of-month value. Both companies and trusts have much higher deposit balances on average, ranging from \$636,000 and \$740,000 at their respective average peaks and \$112,000 and \$88,000 at their respective medians. Irrespective of type, the median client has significantly lower balances. Recall that these

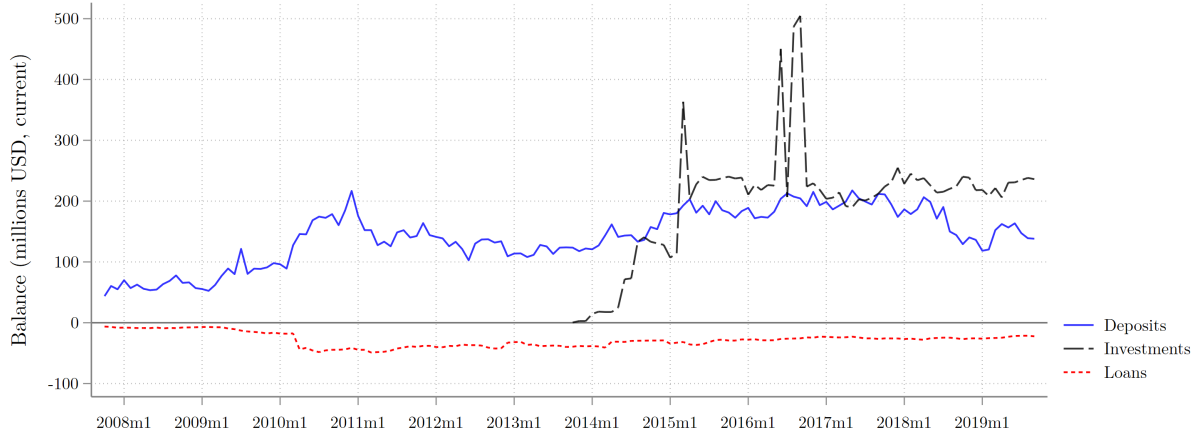
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<sup>12</sup>For these calculations I exclude any account which is held on behalf of an external bank (so called external accounts), or if the account was associated with any financial institution other than CNBIOM.

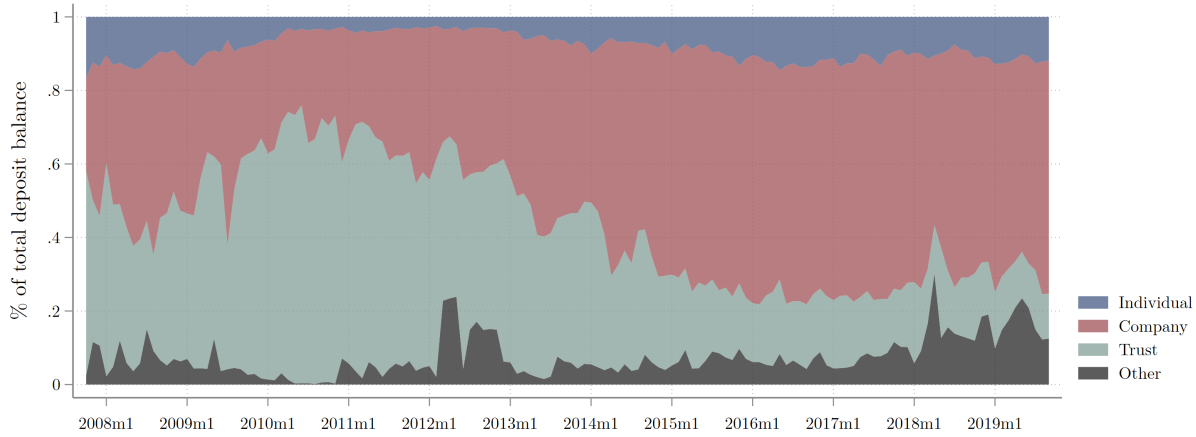
<sup>13</sup>I trim out inactive accounts as those that never had an end-of-month account balance exceeding \$10, a process I describe in Section A1 of the [Online Appendix](#). Thus the sample used here will exclude clients who did not routinely use CNBIOM to store deposits.

**Figure 2: Aggregate bank balances over time and who owns them**

**(a) Aggregate balance by account type**



**(b) Share of deposits by client type**



**Note:** Author's estimates using leaked transaction data. Figure (a) shows estimates of aggregate balance of all deposit, investment or loan accounts held at CNBIOM over time. Investment accounts are comprised of securities and are valued at their end of money dollar value. Figure (b) shows, for deposit accounts only, the proportion of deposits held by individual clients, companies clients, trust clients or other types of clients (funds, foundations and partnerships). All balances are calculated in USD at current prices.

figures are based off of end-of-month balances. Thus if a client stored wealth in the bank for a short amount of time but fewer than 30 days, it will not be picked up in these summary statistics. The same summary stats using maximum monthly balances, displayed in Table A3 in the [Online Appendix](#), indicate that both the average and median client had substantially higher balances in their accounts over the course of their relationship with the bank. Despite this, throughout the analysis in this paper I rely primarily on end-of-month balances, as this

reduces the chances of conflating the stock of wealth that clients maintain offshore with money being temporarily relayed through accounts.

Most clients are based in tax havens, with approximately 50% of individuals, 84% of companies and nearly every trust being registered in one.<sup>14</sup> Many if not most of the company clients in these data are likely to be shell companies - those with no actual physical presence in the Isle of Man. Around 55% of company clients share the same seven addresses (in the Isle of Man, the Cayman Islands, the British Virgin Islands and the UK) a clear indication that even if they are incorporated on the Isle, they don't have a substantial staff presence there.

Of course, even multinationals that function as active firms use shell companies to hold assets or move profits around. Yet most of the bank's company clients are likely to simply be holding companies for financial assets. When the bank adopted its policies for identifying which companies would be reportable for FATCA and the OECD's CRS, it had to ascertain whether each client was an "active entity," essentially a firm that makes money from selling goods and services. Active entities include publicly-listed firms and those who earn more than 50% from non-passive sources. Out of 342 classifications maintained by the bank that I was successfully able to match to its company clients: only 58 (17%) of them were for active entities. The rest (24%) were passive entities, those that earn their income passively from dividends, interest, capital gains, or rental properties, or they were investment entities (59%), those that make money from market trading, investing and portfolio management. Investment entities were also substantially more likely to look like shell companies, as measured by being registered at one of the seven addresses I mentioned above.

As I will explore in the subsequent sections, the location where a company or trust is registered does not mean that this is where its ultimate owners (or its beneficiaries) reside: many of these entities are controlled by individual or companies outside of the Isle of Man. Beneficial ownership information is available for around 60% of companies and nearly 40% of trusts, which I will use to better understand the ultimate location of ownership in Sections 3 and 5.

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<sup>14</sup>In this paper I used a list of tax havens published in [Tørsløv, Wier, and Zucman \(2020\)](#), which includes: Andorra, Antigua and Barbuda, Anguilla, Netherlands Antilles, Aruba, Barbados, Bahamas, Bahrain, Belgium, Belize, Bermuda, British Virgin Islands, Cayman Islands, Cyprus, Grenada, Guernsey, Gibraltar, Hong Kong, Ireland, Isle of Man, Jersey, Lebanon, Liechtenstein, Luxembourg, Monaco, Marshall Islands, Macao, Malta, Mauritius, Netherlands, Panama, Puerto Rico, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Samoa, Seychelles, Singapore, Switzerland, Turks and Caicos and Vanuatu.

Table 1: Descriptive statistics by type of client

	<i>Individuals</i> (N = 390)			<i>Companies</i> (N = 1207)			<i>Trusts</i> (N = 817)		
	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.
Peak deposit balance	261780.93	21019.65	833562.23	635873.91	34842.33	2729609.77	741490.34	263463.83	1602070.12
Median deposit balance (within client)	69577.48	2484.03	240595.47	112236.61	1444.41	769987.56	87928.66	446.53	498052.10
Peak investment balance	33543.98	0.00	437573.02	146052.89	0.00	4930485.54	0.00	0.00	0.00
Median investment balance	18681.32	0.00	259402.67	105554.52	0.00	3659561.77	0.00	0.00	0.00
Peak loan balance	-112553.21	0.00	451010.42	-94676.30	0.00	448918.36	-4073.29	0.00	82544.29
Median loan balance	-51139.80	0.00	108448.54	-35729.06	0.00	248719.13	-709.12	0.00	16252.78
Client established in tax haven	0.50	1.00	0.50	0.84	1.00	0.37	0.99	1.00	0.09
Months account(s) open	64.03	52.50	41.25	54.34	51.00	33.06	80.98	90.00	31.50
Average transactions/month	4.70	3.79	7.26	9.11	2.41	51.29	3.40	0.82	8.27
Beneficial owner information recorded	0.00	0.00	0.00	0.60	1.00	0.49	0.37	0.00	0.48
EFRBS/EBT Trust	0.00	0.00	0.00	0.00	0.00	0.00	0.60	1.00	0.49
Shell company?	0.00	0.00	0.00	0.55	1.00	0.50	0.00	0.00	0.00

**Notes:** Descriptive statistics for all clients with active accounts (those for whom their net end-of-month balance never exceeds \$10 over their entire relationship with the bank). All balances are calculated across *end of month* account balances. These balances are presented in USD dollars, deflated to average 2017 price levels. Peak balances are the highest total end-of-month balance across the lifetime of the client relationship (with the exception of loan balances, which are their most negative value). **EFRBS/EBT** is an indicator variable = 1 if the trust is an Employer-Financed Retirement Benefit Scheme or an Employee Benefit Trust. **Shell company** is an indicator = 1 if the company shares the same primary address with ten or more other companies (the seven addresses discussed in the text).

### 3 Who uses offshore accounts?

Who seeks out an account at an offshore bank? In this section I will highlight the degree to which the clients of offshore banks like CNBIOM are likely to be wealthy. Recent evidence from Colombia, the Netherlands and Scandinavian countries has suggested that richer and wealthier people are much more likely to engage in offshore tax evasion ([Alstadsæter, Johannesen, and Zucman 2019a](#); [Londoño-Vélez and Ávila-Mahecha 2021](#); [Lenders, Lejour, Rabaté, and van’t Riet 2020](#)). However, while these studies tell us about the incidence of offshore evasion within these five countries, we know less about where the average offshore customer is from, or how much wealth they control.

This section will rely on two primary sources of data. The first are the roughly 400 individual clients, as described in the previous section. These are people that have accounts at CNBIOM in their own name. The second source is data from the bank’s register of over 2,000 “beneficial owners” of companies and beneficiaries of trusts. Beneficial owners are those that ultimately control or benefit from the company and its assets (in some cases this may be the owner). If a Ghanaian living in Ghana opens a shell company in the Isle of Man, it might be registered as being tax resident in the Isle, but ultimately the ownership of its assets originate from Ghana. Beneficiaries of trusts, similarly, are those that ultimately benefit from their assets.<sup>15</sup>

Over the rest of this section, I’ll investigate where in the world clients and beneficial owners reside, and whether the amount of money they hold in an offshore bank can tell us where in the income or wealth distribution they are likely to lie. I will do this both for the whole world, and then separately for the United Kingdom, as a large share of CNBIOM’s clients are based there.

#### 3.1 Country-by-country evidence

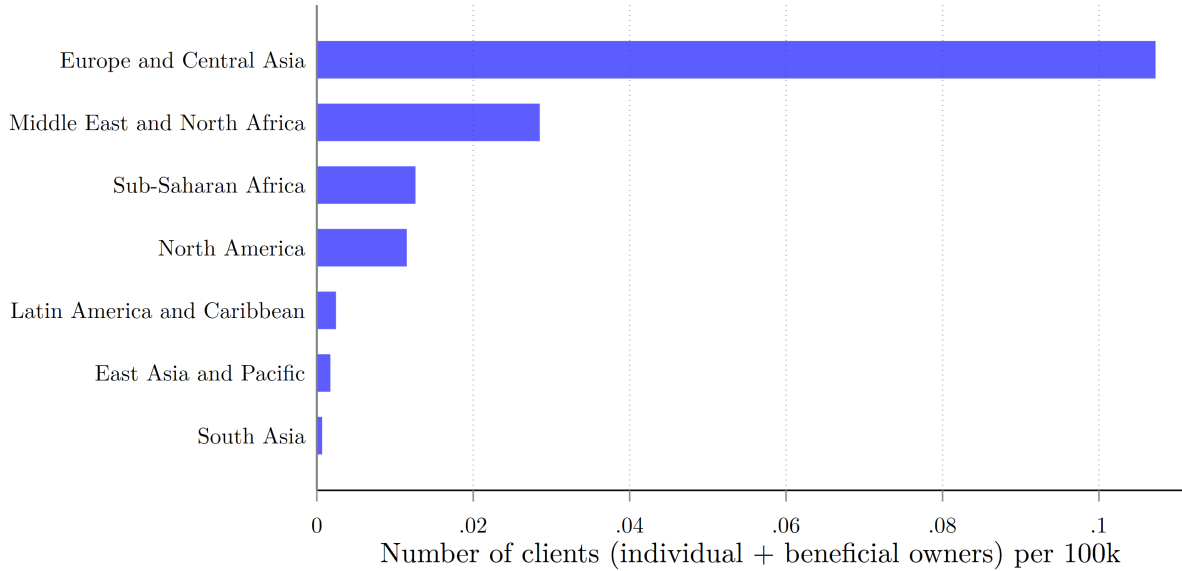
For every individual client that maintained an active account through the period 2008-2019, I identify the location of the client using the latest residential address the bank has on file to identify their jurisdiction of residence.<sup>16</sup> I then do the same for the beneficial owners/beneficiaries of every active company and trust client. I then use this information to calculate the total number of individual clients and beneficial owners for every country/jurisdiction available, weighted by population. In total, CNBIOM’s individual clients and beneficial owners connected to its clients hail from 84 different jurisdictions. As can be

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<sup>15</sup>Different jurisdictions and institutions apply different thresholds as to who technically qualifies as a beneficial owner. In this section I use the bank’s own designation.

<sup>16</sup>When the specific address is unavailable I use CNBIOM’s own designation for the client’s jurisdiction.

**Figure 3: Clients and beneficial owners, per 100k, by region**



**Note:** Author's estimates. Figure shows the number of clients and beneficial owners/beneficiaries per 100k for each region (calculated by dividing the total number of clients and beneficial owners by the total population of the region).

seen in Figure 3, relative to each region's population, CNBIOM's clientele are more likely to be based in Europe and Central Asia, the Middle East, and Sub-Saharan Africa than other regions.

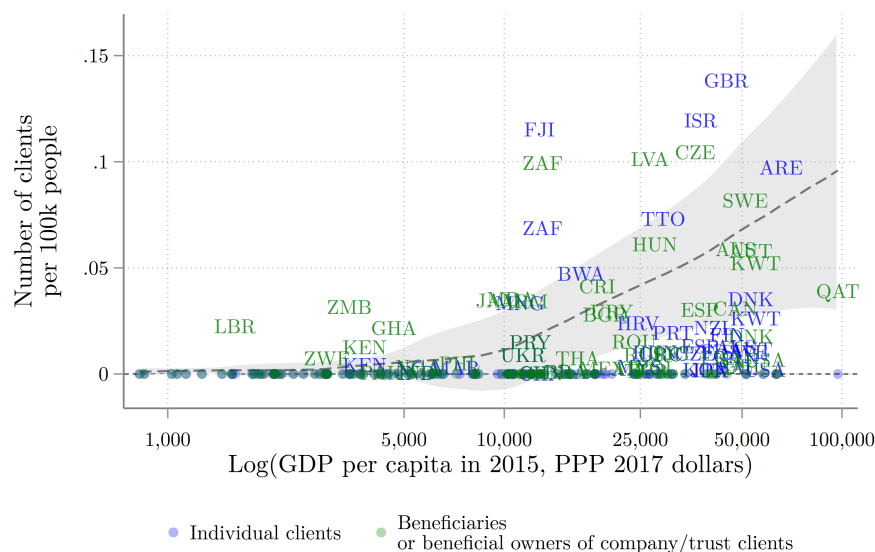
Figure 4(a) shows the relationship between a jurisdiction's GDP per capita and, number of individual clients (in blue) or beneficial owners (in green) from that jurisdiction that were CNBIOM customers, per 100k people. Customers are much more likely to hail from richer countries: there are very few individual clients from countries with a GDP per capita below \$10,000. There are however more beneficial owners from countries below this threshold than there are individual clients, suggesting that clients from poorer countries like Ghana, Liberia, or Zambia are more likely to hold offshore wealth through entities like companies or trusts, rather than in their own name. Despite this, the overall relationship does suggest that offshore banks like CNBIOM are substantially less likely to serve clients from poorer countries.

Although the bank was less likely to serve clients from poorer countries, the clients it did serve appear to be just as (if not more) likely to be rich relative to their country. For each client (or beneficial owner) I calculated the peak end-of-month account balance over the course of their relationship with CNB, then calculated the ratio between the average highest balance across all clients from a jurisdiction and that jurisdiction's per capita GDP.

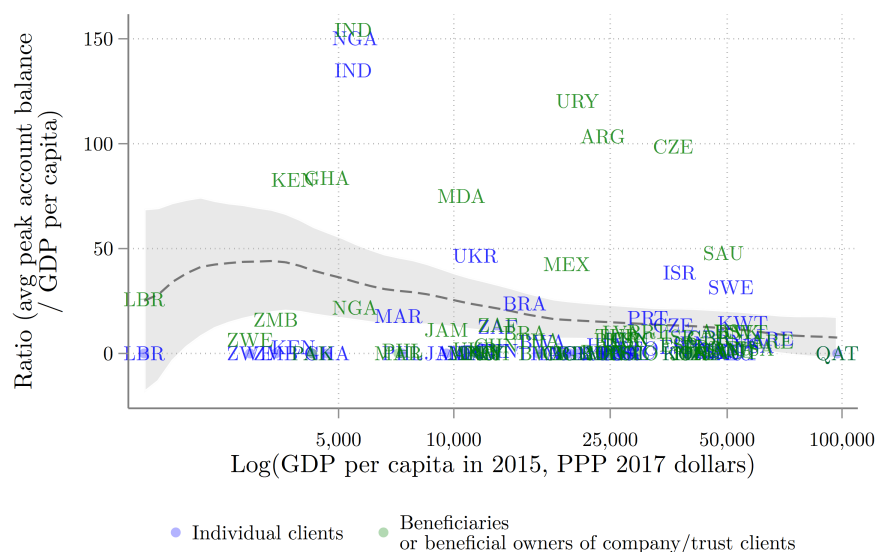


**Figure 4: Clients are more likely to hail from richer countries, but hold similar or lower levels of deposit wealth relative to average income in their country**

**(a) Number of clients per 100k people and GDP per capita**



**(b) Peak client balances relative to GDP-per-capita**



**Note:** Author's estimates from account date. Figure (a) shows the total number of individual clients (in blue) or beneficial owners (in green) per 100,000 people per country, graphed against log GDP per capita. For Figure (b) I calculate the peak end-of-month deposit balance (excluding loan and investment accounts) per client in 2017 dollars, average them across jurisdictions, then divide it by GDP per capita to derive the average deposit-to-income ratio, which is shown on the y-axis. Both figures show the local polynomial estimate of this relationship, with 95% confidence intervals.

For example, individual clients from Nigeria had, on average, nearly 150 times Nigerian GDP-per-capita in their accounts at its highest point. Ukrainian individuals had nearly 50 times the Ukrainian GDP-per-capita. Examining the entire distribution of individual clients from non-haven countries, the median client had, at their peak balance, twice their national income in deposits (1.85 when including debt). This increases to nine times GDP-per-capita for the 75th percentile, and over 200 times for the 99th percentile.

Table 2 shows the relationship between the combined number of individual clients or beneficial owners per 100,000 people and that jurisdiction’s GDP per capita and whether the jurisdiction is a tax haven, controlling for other factors that might drive foreign demand for accounts in the Isle of Man (such as physical distance and sharing a common language). Considering only non-haven countries, GDP per capita is positively associated with the presence of clients at CNBIOM. When we include tax havens in the sample, this relationship remains positive but is no longer significant. Tax havens have substantially more customers on the books, relative to their population. This could be because CNBIOM also serves clients based in other offshore financial centers, but it could also be the result of the increased use of citizen investment schemes in these jurisdictions in order to circumvent taxation (Langenmayr and Zyska 2020). Lower corruption is positively associated with more clients at the bank, although this relationship is not particularly strong.<sup>17</sup>

Figure 4(b) shows the relationship between this ratio and GDP-per-capita cross all jurisdictions with individual clients or beneficial owners connected to the bank. While poorer countries are less likely to use offshore banking services, those that do control significantly more wealth relative to their country’s average level of income. This relationship holds in regression form (see columns (3)-(6) of Table 2, confirming that clients from poorer countries are much more likely to be relatively well off compared to their rich country peers.

Taken together, the data suggests that individuals that engage in offshore banking are on average are from richer countries and are likely to be economic elites. In the next section I will show this holds even when we look closely

## 3.2 Evidence from the United Kingdom

The relationship between one’s level of wealth or income and use of offshore services also holds when we look carefully at the distribution of clients across a single country. Because a large share of CNBIOM’s clients come from the United Kingdom, it’s possible to observe whether they are more likely to come from wealthier parts of the country and whether the amount of deposits they hold suggest they are likely to be wealthy themselves.

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<sup>17</sup>Neither democracy nor inequality (as measured through the Gini index) appear to be strong or significant predictors either.

**Table 2: Country correlates of client numbers and account balances**

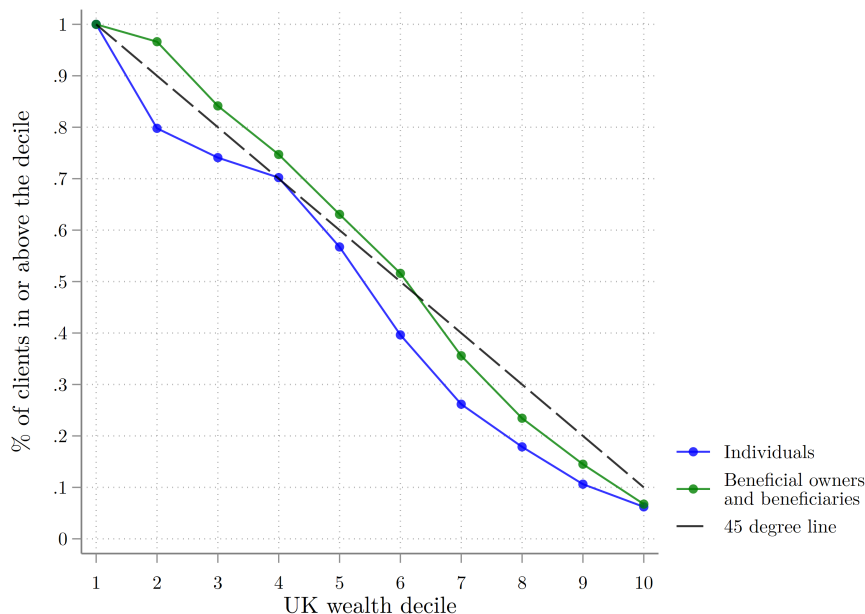
	IHS(# clients per 100k)		Log( $\frac{\text{average peak client balance}}{\text{GDP per capita}}$ )		Log( $\frac{\text{average mean client balance}}{\text{GDP per capita}}$ )	
	(1)	(2)	(3)	(4)	(5)	(6)
Log (GDP per capita)	0.0135** (0.00621)	0.0206 (0.0331)	-1.085** (0.478)	-0.931** (0.446)	-1.213** (0.498)	-1.083** (0.468)
CPI (2019) (std)	0.0185* (0.0107)	0.0294 (0.0560)	0.0412 (0.468)	-0.0491 (0.413)	-0.00861 (0.576)	-0.0636 (0.505)
Tax haven		1.048* (0.550)		0.645 (0.714)		0.693 (0.737)
Common language	0.0263 (0.0160)	0.153 (0.0995)				
Log(Distance, km)	0.659 (0.484)	2.954 (2.370)				
Log(Distance) <sup>2</sup>	-0.0396 (0.0290)	-0.184 (0.146)				
Constant	-2.831 (2.055)	-11.99 (9.720)	12.17*** (4.507)	10.67** (4.212)	12.03** (4.712)	10.77** (4.440)
Sample	Non-havens	All	Non-havens	All	Non-havens	All
R <sup>2</sup>	.14	.183	.157	.124	.171	.147
Observations	149	169	54	68	57	71

**Notes:** Outcomes (1)-(2) are the number of clients ( individual clients or the beneficial owners of corporate and trust clients) based in each country per 100k people. Outcomes (3)-(4) are the log of the average account balance (at its peak) for all individual/bo clients based in a country divided by that country's GDP-per capita. Outcomes (5)-(6) is are the log of the average client balance (averaged across their entire relationship with the bank), divided by GDP-per capita. Account balances are in nominal 2017 dollars and GDP-per-capita is measured in 2017 PPP dollars. All regressions exclude customers/deposits from the United Kingdom. Distance indicates the physical distance between the jurisdiction and the Isle of Man. Common language indicates that they both share English as an official language. CPI 2019 = standardized values of the 2019 Corruption Perceptions Index measure (higher is less corrupt). \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . Standard errors clustered at the country level.

One simple way to do this is just to observe where the clients would fall in the UK's wealth distribution, given the deposits they control. In aggregate, these clients are likely to be among the wealthiest in the UK. Taking each of these clients maximum net worth (calculated as the summation of the client's investment, loan and deposit accounts) as measured by CNBIOM, the average British client had a peak net worth of £306,245 and the median client had a peak net worth of £19,359, both in 2017 GBP. According to the UK Wealth and Assets Survey (ONS 2019), this means that the median UK client has more financial wealth offshore than what the median person in the UK wealth distribution has on average. It also means that the average UK client has more financial wealth offshore than what those in the 90th percentile of the UK wealth distribution have, on average.

There is more to total wealth than financial wealth and we are neither able to observe the total wealth of CNBIOM's clients, nor all of their financial wealth. But where would their financial wealth put them in the total wealth distribution in the UK? Using recently published updated information on the UK's wealth distribution from Advani, Bangham,

**Figure 5: Where the bank’s clients would fall in the UK wealth distribution, considering only their financial net worth recorded by the bank**



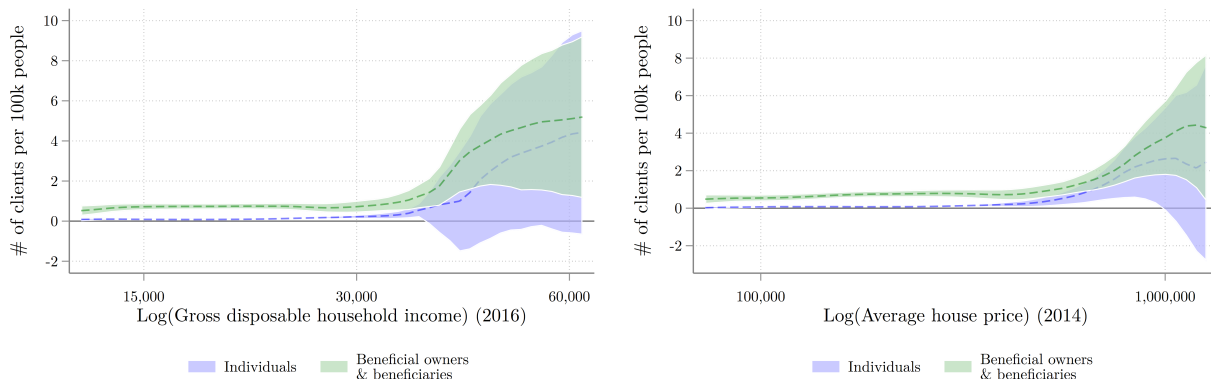
**Note:** Author’s estimates using bank’s financial net worth data and its beneficial ownership register. Figure shows the percentage of either (a) individuals or (b) beneficial/owners/beneficiaries who would be in a given UK net wealth decile. Wealth distribution data provided by [Advani, Bangham, and Leslie \(2020\)](#)

[and Leslie \(2020\)](#), Figure 6 considers what proportion of individual clients (or beneficial owners/beneficiaries) would fall into a given UK wealth decile, only considering their peak account balances at CNBIOM. Both individuals and beneficial owners/beneficiaries track the UK wealth distribution fairly well (the 45 degree line indicates where those in the UK would fall, on average), which would be entirely unremarkable if not for the fact that this is only considering their account balances in a single, offshore bank.

Finally, UK clients of the bank come predominantly from richer parts of the country. To investigate this, I link the post codes of each UK client or UK beneficial owner to one of 377 Local Authorities, and calculate the number of clients/beneficial owners per 100,000 people. I then link this to data on average Gross Disposable Household Income in 2016, taken from the [Office of National Statistics](#), as well as data on average house prices from 2015, obtained from the [HM Land Registry](#). Figure 5 displays the relationship between the number of clients in each local authority and household income or house prices. There are more beneficial owners at all levels of income or price, but the intensity of clients and beneficial owners both increases substantially in richer local authorities with higher house prices.

**Figure 6: UK residents who hold offshore accounts come predominantly from richer parts of the country with higher property prices**

**(a) Number of individual clients per 100k people and local income** **(b) Number of individual clients per 100k people and local houseprices**



**Note:** Author’s estimates using bank’s client data and beneficial owner registry. Figure shows local polynomial estimates of the number of individual clients (or beneficial owners/beneficiaries) in each UK local authority (LA), by the log of that LA’s (a) gross disposable income or (b) average property price.

Given the proximity of the UK to the Isle of Man and the close cultural and financial ties the two jurisdictions have to one another, one might expect that the average UK client would be at a lower position in the income or wealth distribution than clients from other jurisdictions. This has been shown to be the case in other contexts: for example, Dutch citizens that hold offshore wealth in Belgium are much more equally represented in the wealth distribution than those that hold offshore wealth in Switzerland ([Lenders, Lejour, Rabaté, and van’t Riet 2020](#)). Thus, if a similar analysis were possible with regional data from another country, the differences might even be more stark than this.

## 4 The use of offshore accounts by political elites

In the 1981 Mel Brooks comedy *History of the World, Part I*, King Louis XVI, reflecting on his outrageous privilege, exclaims, “It’s good to be the King!” Mr. Brooks was onto something: across a wide range of contexts, political elites have been shown to exploit their connections and power to their own advantage and to that of their friends and relatives ([Faccio 2006](#)). For example, [Fisman, Schulz, and Vig \(2014\)](#) show that the assets of Indian state politicians grow at a steady clip once they come into power, an accumulation of wealth that is accelerated in states that struggle with corruption.<sup>18</sup> In a recent working paper, [Jones,](#)

<sup>18</sup>([Asher and Novosad 2018](#)) also find that local Indian politicians accumulate more wealth during mining booms, despite having no official rights over mining revenue.

Schilling, and Tarp (2021) show that politically-connected individuals in Mozambique see faster growth in the number of businesses they own and their degree of centrality in business networks. These benefits also accrue to companies: Rijkers, Freund, and Nucifora (2017) and Rijkers, Baghdadi, and Raballand (2017) show that firms connected to the former Tunisian president Ben Ali were more likely to engage in tariff evasion and enjoyed a substantial market advantage in more-regulated markets. Szakonyi (2018) finds that firms connected to those who win a seat in local legislatures increase their profitability by 15%. Families of elected official have also shown to benefit in subtle ways: Fafchamps and Labonne (2017) show that the likely-family members of recently-elected Filipino officials are more likely to score better jobs. Consistently, empirical work has shown that if you want to further your lot in life, then yes, it is good to be the king, or at least to have him on speed dial.

Given the opaque nature of offshore bank accounts, the anti-corruption and anti-money laundering world sees their use by people with political power or connections as a particular concern. Much of the recent focus has been ensuring that financial institutions identify and monitor politically-exposed persons (PEPs), defined as “an individual who is or has been entrusted with a prominent public function” by the Financial Action Task Force (FATF 2013), although jurisdictions are free to adopt their own definition.<sup>19</sup> PEPs and high net worth (HNW) individuals were cited as significant money laundering threats to the Isle’s financial system in both the jurisdiction’s most recent AML/CFT national risk assessment and its 2016 evaluation by the European AML monitoring body MONEYVAL.

Since the leak of CNBIOM’s data, a number of noteworthy PEP clients have been turned up through investigative reporting. According to the OCCRP, one high-risk PEP client was the then-head of Armenia’s custom’s department Armen Avetisyan, whose company Golden Group Limited opened an account at the bank in 2012. The account, through which - according to the media - at least \$10 million flowed through over the years, was ostensibly for his hotel company (during this time Avetisyan’s civil service income would have been around \$16,000 a year). Despite this, CNBIOM reportedly flagged the account as being high risk immediately and eventually closed the account in 2018. Around this time Avetisyan was reportedly being investigated by the Armenian National Security Service under the suspicion that his hotel business had been financed with illicit money. The media reported that those charges were dropped after he donated one of their hotels to the state as a gift (Sarukhanyan and Baghdasaryan 2020). Together with Finance Uncovered, the OCCRP also reported on another set of PEP clients: the children of the former security minister of Azerbaijan - Eldar

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<sup>19</sup>The Isle of Man Financial Services Authority includes, for example, heads of state/government, senior government officials, members of parliament, political party officials, senior judicial officials, ambassadors, high ranking armed forces officers, senior employees of state-owned enterprises, management from international organizations.

Mahmudov - who reportedly kept millions of dollars in an account until it was eventually reported by the bank to the Isle of Man’s financial intelligence unit ([OCCRP 2020a](#)).

The bank also had several multi-millionaire or billionaire clients who may not have explicitly been classified as PEPs, but are likely to be highly influential persons. These, according to [The Times](#) and the [OCCRP](#), included Russian banking tycoon Oleg Tinkov, whose private jet leasing firm, Stark Limited, maintained an account at CNBIOM and reportedly made large, frequent, circular payments and loans between several Tinkov-controlled companies ([OCCRP 2020b](#)). Tinkov was [recently charged](#) with tax fraud by the Internal Revenue Service and the Department of Justice, who allege the billionaire lied about his net worth when he renounced his US citizenship ([Department of Justice 2020](#)). According to the [India Times](#), another wealthy client of CNBIOM was Indian national Onkar Kanwar, the chairperson of Apollo Tires, who featured in the Panama Papers and was flagged by Mossack Fonseca as a PEP due to his presence on the board of the Kerala State Industrial Development Corporation ([India Times Auto 2016](#)).

While not politically-exposed clients, it is worth noting that journalists have reported that several clients connected to the infamous German payments company Wirecard maintained accounts at the bank. According to the Investigative Reporting Project Italy (IRPI), an account opened by the payments provider Walpay was used to distributed payments to Wirecard customers, including firms associated with “hardcore porn” and “illegal gambling.” IRPI reported that Walpay chose to close its account, Wirecard continued to make its payments via the CNBIOM account of a French lawyer. The arrangement apparently came to an end when JP Morgan, who along with Natwest Bank was helping facilitate the payments, challenged its legitimacy and forced the latter to cut off all ties with the CNBIOM account ([Civillini and Paolucci 2020](#)).

It should also be noted that journalists have also picked up on cases where the bank identified and turned away potentially-risky clients. In a recent [tweet](#), the OCCRP-linked Bulgarian investigate journalist site Bivol noted that in 2014 Patricia Cahuzac, the wife of a former French budget minister (both of whom were being investigated for tax evasion/fraud), was successfully identified by compliance officers and was reported to the Isle of Man financial intelligence unit ([Bivol 2019](#)). The Cahuzac affair was eventually revealed in the press and both husband and wife ended up being convicted ([Morenne 2020](#)).<sup>20</sup>

CNBIOM is not special in the fact that a few of its customers or attempted-customers were politically-connected or may have been involved in fraudulent or corrupt activities.

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<sup>20</sup>Mr. Cahuzac’s status as a high-risk PEP was distressing enough that even Mossack Fonseca, the law firm at the center of the Panama Paper scandal, closed the account of a firm once they learned he owned it, and [reported it to the Seychelles authorities](#).



As demonstrated by a recent spate of leaks ranging from The Panama Papers to the more recent FinCEN files - large international banks are just as likely to host high-risk or unsavory characters. Much as in those cases, these examples would not have seen the light of day had there not been a data leak in the first place.

Jon Stewart once said in jest on the Daily Show in reference to sensational reporting on the Iraq War: “no one ever talks about the cars that don’t explode.” It is true that the media will always focus on the most egregious cases. To move past the headlines, the next few sections will investigate where the average politically-exposed client of the bank came from, and how on average, clients connected to politically-exposed and high profile individuals connected differed from those that were not.

#### **4.1 Where do political elites come from, how much wealth are they associated with and do they behave any differently?**

Among the leaked files were two registers maintained by CNBIOM. The first was the bank’s PEP register, which it used to keep track of all PEPs that had an association with an existing or former client or were a client themselves.<sup>21</sup> It also kept track of all PEPs (or clients with a PEP connection) who had approached the bank to do business, or whom the bank had encountered through its day-to-day business (for example, when the bank discovered that they were facilitating payments to a PEP on behalf of a client). As discussed above, the bank did on occasion turn away PEPs, terminated existing relationships, or reported them to the authorities when they deemed there to be a substantial risk of money laundering or corruption. These connections were not always direct: around 30% of the identified PEPs were the beneficial owners of the account in question, but others were directors or shareholders of related companies, or were signatories on accounts, or in some cases were relatives of the PEP in question.

CNBIOM also maintained an account of high-profile individuals (HPIs). These are a mix of international celebrities (mainly professional athletes), other high net worth individuals and people for whom the bank discovered ‘adverse media’ - information on potential wrongdoing or fraud, too insubstantial to warrant closing the account but enough to justify keeping a close eye on the account. Although they are perhaps a category worth studying in their own right, I will include HPIs in this section primarily to show the ways politically-exposed persons differ from other influential, wealthy elites.<sup>22</sup>

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<sup>21</sup>Given their high risk nature, as part of FATF’s recommendations, banks are required to identify and monitor PEP-related accounts for any high-risk behavior - hence the existing of a PEP register in the first place ([FATF 2013](#)).

<sup>22</sup>In a handful of instances an individual was flagged as both a PEP and an HPI. In these instances, I

The roughly 120 PEPs and HPIs listed in the bank’s register came from a myriad of different countries. Figure 7(a) displays the distribution of PEPs and HPIs across different jurisdictions - as indicated in the bank’s register. Nearly 30% of the identified PEPs come from the Isle of Man, Russia and India respectively. A large share also come from the United States, Malta, Armenia and the Czech republic. By contrast, most HPIs come from the United Kingdom, with a few from Russia, the United States and Spain.

The presence of a number of PEPs from post-Soviet and developing countries raises some concerns. The rationale behind identifying PEPs is their increased risk of facilitating corruption. The location of the PEP might also be of concern: one would in theory be more nervous about a politician from a notoriously-corrupt country than one from one with strong anti-corruption institutions. To unpack whether PEPs were more likely to come from more corrupt countries, I calculate the proportion of individuals connected to the bank (its individual clients and beneficial owners, plus PEPs) who are PEPs. I then do the same for HPIs. I do this to account for the underlying demand of offshore services from a country: if the United States has a high number of PEPs in the data, this may be driven by the popularity of the bank with US clients in general.

Figure 7(b) shows the relationship between a jurisdiction’s score on the 2019 Corruption Perceptions Index (CPI) and the proportion of connected individuals who are PEPs. More corrupt countries are likely to have a higher proportion of PEPs than less corrupt ones. This is in contrast to HPIs, for whom there is no observable relationship between a country’s CPI score and this ratio. Table A1 in the [Online Appendix](#) shows the linear relationship between the two, controlling for GDP per capita and the country’s tax haven status. Countries with a one standard deviation lower value of the CPI have a 4 percentage point higher proportion of PEPs, on average. Those that score beneath a 60 on the CPI have a 12 percentage point higher proportion of PEPs relative to those that do not. These relationship does not exist for HPIs - only for people who are politically connected. This may mean that offshore services are more popular among PEPs from more corrupt countries, but it is also important to note this is also consistent with the bank focusing its resources on *identifying* PEPs from more corrupt countries, or with those individuals being more likely to end up in the media and thus get noticed by a compliance officer doing due diligence on an account.

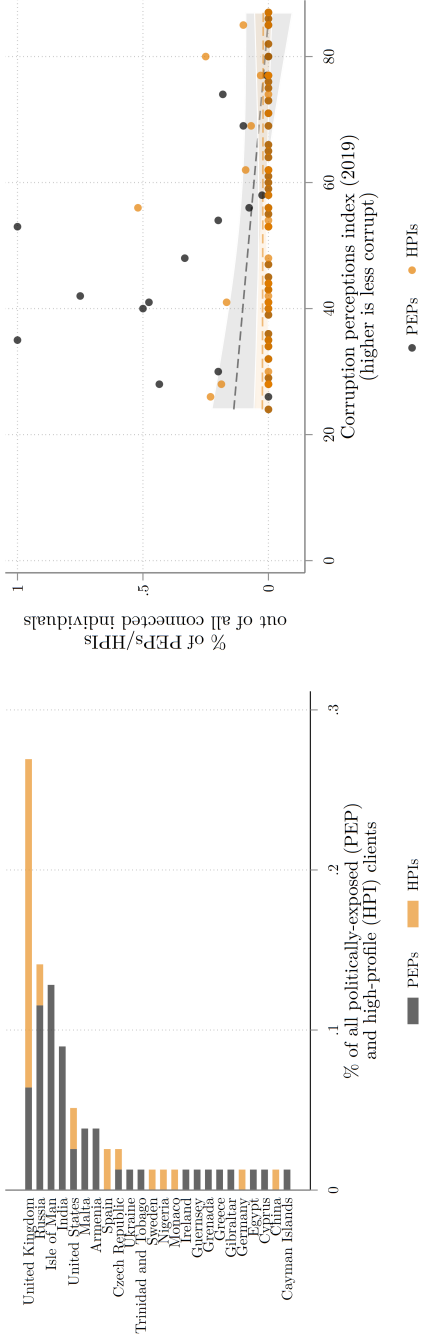
Despite only being a small number (around 120) people, PEPs and HPIs were connected to a sizable portion of the bank’s deposits. In Figure 7(c), I calculate the share of all deposits (excluding investment and loan accounts) owned by clients that are connected to a PEP or an HPI. Deposits associated with these two groups were a sizable portion of the total deposit base of the bank. At their respective peaks, 24% and 19% of deposits were associated with

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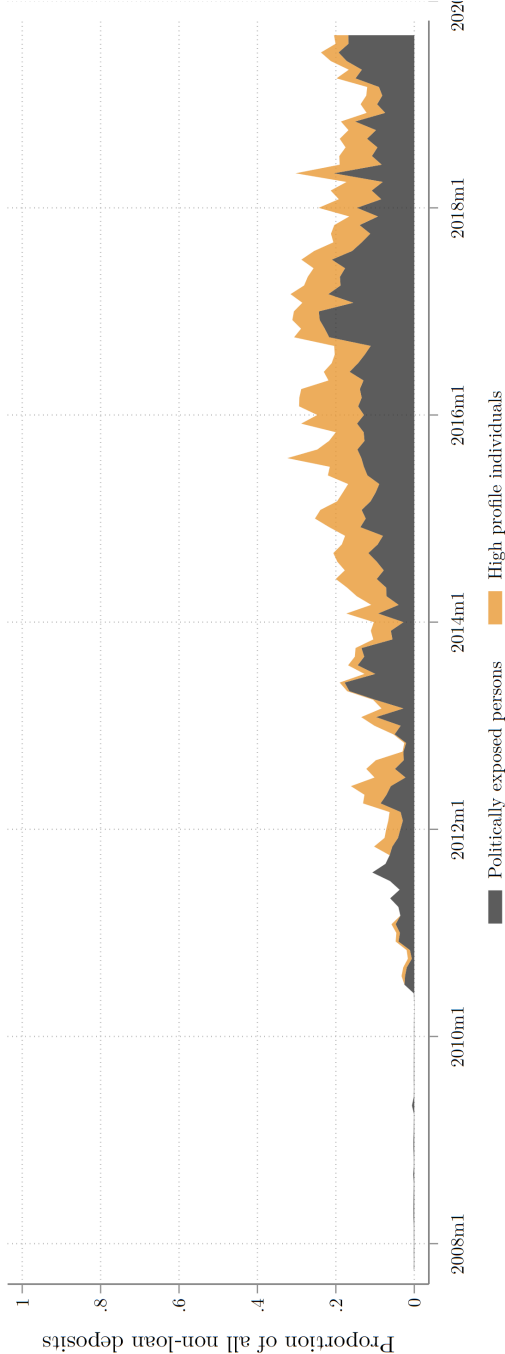
drop their HPI designation and treat them as a PEP.

Figure 7: The jurisdictions politically-exposed (PEP) and high-profile (HPI) people come from and the share of offshore deposits they are associated with

(a) Distribution of PEPs/HPIs by country of(b) Relative number of PEPs/HPIs by their country of origin's level of corruption



(c) Share of total deposit account balances associated with PEPs/HPIs



**Note:** Author's estimates. Figure (a) shows the proportion of all individuals (PEPs + HPIs) identified by their country-of-origin. The proportions are stacked by whether the person is a PEP or an HPI. For example: 14% of all individuals identified in the register are of Russian origin (12% are Russian PEPs and 2% are Russian HPIs). Figure (b) shows the relationship, by country, between the proportion of customers and PEPs (or HPIs) connected to the bank who are PEPs (or HPIs) and that country's Corruption Perceptions Index (CPI) score from 2019. Local polynomial estimates with 95% confidence intervals are also shown. Figure (c) shows the proportion of all deposits (excluding loan and investment accounts) that are held by clients associated with PEPs (or HPIs) in a given month. The proportions are stacked to show the combined proportion of these two groups.

politically-exposed persons and high-profile individuals.<sup>23</sup>

Is this abnormal? We cannot observe what these shares look like for most banks, so it is impossible to know if the share of offshore wealth connected to political elites is higher than we'd expect in other contexts. But it is clear that politically-connected clients represent a sizable share of the offshore world's business, comparable to a similar-sized group of high profile, high net worth individuals. In the next section, I will discuss in what ways clients associated with politically-exposed persons differ in the types of accounts and amount of money they controlled.

## 4.2 How are clients connected to political elites different?

To investigate how politically-connected clients differ from others, I take every active<sup>24</sup> client the bank has records for and investigate whether that client's location, account activity or account balances differ systematically if it is connected to a PEP or HPI.

Table 3 shows the results from a series of regressions of a client's characteristics or activity on indicators equal to one if the bank ever flagged the client as being PEP-connected or HPI-connected respectively. In all of these regressions I include fixed effects for the type of client (e.g. individual, company, trust or other). I do this because, as I show in Figure A4 in the [Online Appendix](#), PEPs and HPIS are more likely to be connected to company clients than any other type. I also include year-quarter-of-opening fixed effects, which controls for the start of the client-bank relationship. When appropriate, I also include client-jurisdiction fixed effects. The end result is that I will be comparing outcomes for PEP/HPI-connected clients of the same type, who opened their first account at the same time, who are registered in the same jurisdiction.

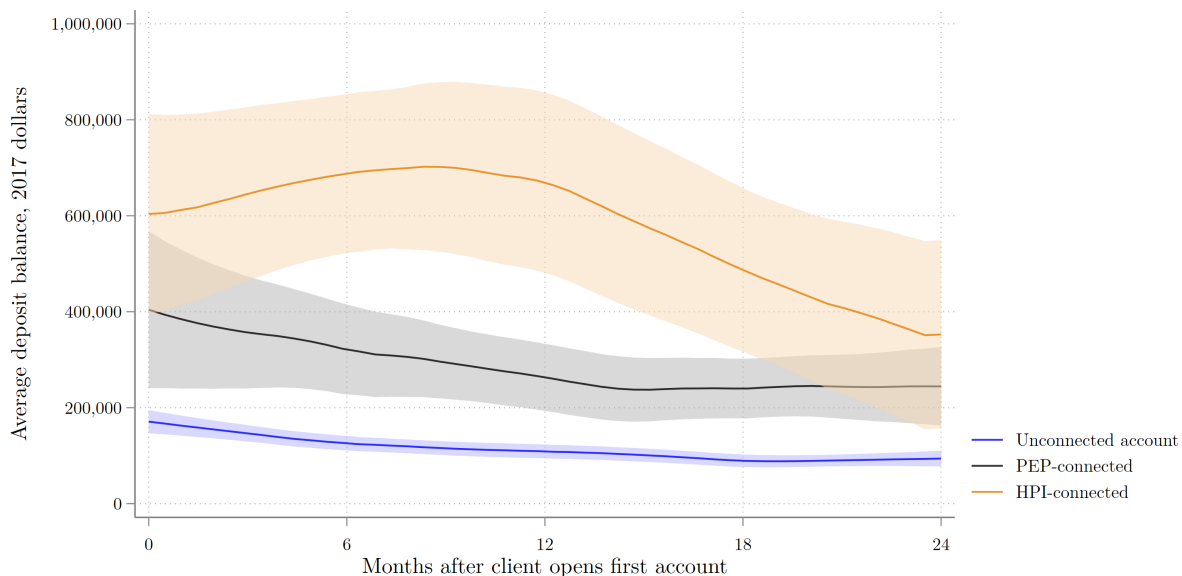
Approximately 82% of CNBIOM's clients (individuals, companies and trusts combined) are registered in tax havens, but PEP-connected clients are 10 percentage points more likely to be based in one. When IOM-based institutions are excluded (as a number of PEPs are IOM-based ones) this difference increases to nearly 20 percentage points. HPI-connected clients are similarly likely to be based in a tax haven. Both PEP and HPI-connected clients have a longer-lasting relationship with the bank, between 9-12 months longer than unconnected clients, who stick around for just over five years on average. They also see more

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<sup>23</sup>For these and all other PEP/HPI calculations, I make one adjustment to the structure of CNBIOM's data. Several PEPs maintained a deposit account at the bank through an investment firm. Rather than assign all of the investment firm's assets - which were a sizable portion of CNBIOM's customer deposits - to this single PEP, I relied on leaked documentation of which specific accounts were owned by this PEP in order to re-assign those deposits and re-classify them as being owned by an individual account. This is described in greater detail in Section A1 in the [Online Appendix](#)

<sup>24</sup>As described above, these are clients whose account balanced exceeded +- \$10 during the course of their relationship with the bank

**Figure 8: Net worth of clients connected to PEP/HPIs over time**



**Note:** Figure shows local polynomial estimate of the net worth of the bank’s clients who are connected to a politically-exposed person (PEP), high profile individual (HPI) or not connected. 95% confidence intervals shown. The sample is restricted to clients who maintain accounts for at least 24 months, and is indexed relative to the month the account was first opened. All amounts are shown in 2017 USD.

account activity: politically-connected clients and high-profile individual-connected clients conduct roughly 27% and 50% more transactions per month, respectively, although the former is not statistically significant.<sup>25</sup>

Clients that are connected to PEPs also - across the board - hold greater amounts of deposit wealth: approximately 80% more at their peak and 160% more at the median. This is substantially more than the average client, but notably less than HPI-connected accounts. The relationship also holds when I consider the client’s net worth as calculated by the bank, which includes both deposits and wealth held through investments (as indicated in column (7), PEPs are about 6% more likely to hold an investment account at the bank than the average customer). The difference in deposit wealth also does not appear to be an artifact of using the peak balance or the median. When average levels of wealth for each group are compared across the first two years of a client’s relationship with the bank (Figure 8), PEPs-related clients have considerably higher levels of net worth from the start, as do HPIs.

In addition to having a higher probability of being based in a tax haven, PEP-affiliated accounts are also more likely to wire money in and out of their accounts to and from other

<sup>25</sup>These partial correlations are stronger when median deposits are not included as a control. That is, PEP and HPI-related clients have substantially higher levels of account activity than other clients, but this is partially driven by their higher levels of deposits.

Table 3: Differences in PEP/HPI-connected clients

	Use of tax havens		Account activity		Deposit balances **		Investments and Net worth		
	(1) Pr(client is based in haven)	(2) Pr(client is based in haven) (excluding IOM) *	(3) # months client account stays open	(4) Log(Average # of transactions per month)	(5) IHS(Peak deposit account balance)	(6) IHS(Median deposit account balance)	(7) Any investment accounts?	(8) IHS(Peak net worth)	(9) IHS(Median net worth)
PEP-connected	0.101** (0.0453)	0.190** (0.0813)	12.04*** (3.701)	0.276 (0.169)	1.233*** (0.411)	2.068*** (0.698)	0.0631*** (0.0140)	2.413*** (0.689)	2.730*** (0.858)
HPI-connected	0.0708 (0.0568)	0.216*** (0.0724)	9.447** (4.625)	0.525** (0.211)	2.700*** (0.507)	3.335*** (0.861)	0.158*** (0.0175)	4.455*** (0.861)	5.376*** (1.071)
Mean for non-PEPs/HPIs	.818	.59	63.7	.577	11.4	6.78	.00718	10.2	5.74
Client type f.e.	X	X	X	X	X	X	X	X	X
Jurisdiction f.e.			X	X	X	X	X	X	X
Quarter opened f.e.	X	X	X	X	X	X	X	X	X
Balance control	X	X	X	X					
R <sup>2</sup>	.2915617	.5841541	.4788105	.4313271	.1533255	.1535325	.1173514	.1841389	.2076769
Observations	2,484	1,104	2,454	2,454	2,331	2,331	2,466	2,466	2,466

**Notes:** Sample includes all clients that maintained an active account between 2008-2019. Peak (median) account balances/net worth are the highest (median) observed end-of-month deposit account balance or net worth level during the lifetime of the relationship. PEP: PEP-connected indicates that the client account was flagged by the bank as being associated with a politically-exposed person. HPI-connected indicates that the client account was flagged by the bank as being associated with a high-profile individual (if both, the account is only categorized as a PEP account). Client type fixed effects control for whether the account is an individual, company, trust, partnership, foundation or fund. Jurisdiction fixed effects control for the jurisdiction assigned to the client by the bank. Quarter-opened fixed effects control for the year-quarter the account was opened. IHS = inverse hyperbolic sign. Balance control is controlling for the median account balance. Standard errors clustered at the client level. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

\* Drops all clients registered as being in the Isle of Man

\*\* Sample restricted to clients with account balances that exceed zero during the lifetime of their relationship with the bank

Table 4: Share of wire transfers going to tax havens, by PEP/HPI status

	% dollar value of all wire transfers in			% dollar value of all wire transfers out				
	(1) Tax havens (excl. Isle of Man)	(2) Tax havens (incl. Isle of Man)	(3) Non-havens	(4) Unknown	(5) Tax havens (excl. Isle of Man)	(6) Tax havens (incl. Isle of Man)	(7) Non-havens	(8) Unknown
PEP-connected	0.285*** (0.0812)	0.265*** (0.0800)	-0.209*** (0.0788)	-0.0552*** (0.0183)	0.0697 (0.0477)	0.219** (0.0889)	-0.179** (0.0748)	-0.0399 (0.0453)
HPI-connected	0.199** (0.0860)	0.0937 (0.0914)	-0.0526 (0.0929)	-0.0411 (0.0424)	0.143** (0.0660)	0.00357 (0.0747)	0.0384 (0.0788)	-0.0420 (0.0411)
Constant	0.126*** (0.0168)	0.284*** (0.0225)	0.607*** (0.0238)	0.110*** (0.0145)	0.0851*** (0.0120)	0.392*** (0.0224)	0.512*** (0.0227)	0.0964*** (0.0112)
Client type f.e.	X	X	X	X	X	X	X	X
Jurisdiction f.e.	X	X	X	X	X	X	X	X
R <sup>2</sup>	.081	.0933	.102	.0191	.0915	.18	.0239	.093
Observations	562	562	562	562	805	805	805	805

**Notes:** Author's estimates using transaction data. Sample includes all clients that sent at least one wire transfer between May 2018 and July 2019, the period during which source/destination data is available. Outcome is the share of all wire transfers (in dollars) to non-haven jurisdictions, tax haven jurisdictions (excluding and then including the Isle of Man) and to jurisdictions where no country code was recorded. PEP-connected indicates that the client account was flagged by the bank as being associated with a politically-exposed person. HPI-connected indicates that the client account was flagged by the bank as being associated with a high-profile individual (if both, the account is only categorized as a PEP account). Client type fixed effects control for whether the account is an individual, company, trust, partnership, foundation or fund. Jurisdiction fixed effects control for the jurisdiction assigned to the client by the bank. Standard errors clustered at the client level \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$



tax havens, and activity that, in previous studies, has been shown to be a risk factor for money laundering ([Chernykh and Mityakov 2017](#)). As described earlier in the paper, I can observe whenever an account makes a wire transfer, but the ultimate jurisdiction of origin or destination of that transfer is only available for a roughly 14-month period between mid 2018 and 2019 (see Figure A3 in the [Online Appendix](#)). For all clients who had an open account during that period and who made at least one wire transfer, I calculate the share of the dollar value of all wire transfers that came from (or went to) tax havens (both including and excluding the Isle of Man), non-havens, or were unclassified. The results are presented in Table 4. Roughly 13% of the dollar value all wire transfers received by regular clients came from other tax havens. That number is 30 percentage points higher for PEP-connected clients (and even higher than HPI-connected clients), indicating that the source-of-funds for these accounts are even more likely to be obscured. The same is true for outgoing funds: excluding the Isle of Man, PEP-connected clients sent 10 percentage points more to other tax havens than unconnected ones, roughly on par with HPI connected clients.<sup>26</sup>

Taken together, these results are consistent with clients with political connections having access to greater levels of wealth or sources of finance when compared to the average user of an offshore bank as well as engaging in behavior (setting up shop in and transacting more often with other havens) that makes it easier to obscure the true nature of their business or source/destination of their funds. Another possible explanation is that compliance officers are more likely to spot politically-connected individuals associated with accounts when they involve substantially higher levels of deposits and transfers. There is no direct way to test for this, but the PEP register does contain the date the entry was first added, allowing me to observe, for those that were added, how many months passed between the opening of the client’s first account and the date the PEP was first added. If ‘bigger’ clients were more likely to be identified, we would also expect them to be identified sooner, but there appears to be no clear correlation between the length of time it takes for a PEP to be added to the register and the size of the account (See Figure A5 in the [Online Appendix](#)).<sup>27</sup>

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<sup>26</sup>The results, presented in Table A2 in the [Online Appendix](#) are broadly similar when we consider the number of wire transfers rather than the dollar value, although PEP-connected accounts do not appear to send a higher *number* of payments to tax havens (but do receive a higher number of payments).

<sup>27</sup>If some PEPs have yet to be discovered at the point the data is leaked, this relationship will be affected by censoring, so it is not possible to be fully conclusive here.

## 5 How well do international statistics measure offshore wealth?

Without the ability to look beneath the surface, most researchers and many policymakers have to rely on international statistics to infer how much wealth sits ‘offshore.’ Yet there are growing concerns that the preponderance of shell companies in tax havens - because they hamper efforts to accurately assign ownership of profits or assets - distorts these statistics. If aggregate data cannot look beyond a shell company to understand that it is controlled by a person or firm in, say, Ghana, it will be difficult to accurately record Ghana’s cross-border positions with any countries that shell company does business with. This has led to a number of ‘phantom’ phenomena in international statistics, ranging from an inflation in estimates of foreign direct investment moving in and out of tax havens ([Damgaard, Elkjaer, and Johannesen 2019](#)) to an underestimate of bilateral investment positions between more developed countries and emerging economies ([Coppola, Maggiori, Neiman, and Schreger 2020](#)),

These concerns extend to the measurement of offshore wealth, where one of the most common sources is that of the Bank of International Settlements’ Locational Banking Statistics (LBS), which includes information on the volume of non-bank claims and liabilities by the jurisdiction of the relevant counterparty. The LBS are used widely in work on offshore wealth, from assessing the impact of exchange agreements ([Menkhoff and Miethe 2019](#); [Beer, Coelho, and Leduc 2019](#); [Casi, Spengel, and Stage 2020](#); [O’Reilly, Ramirez, and Stemmer 2019](#)), to allocating offshore wealth ([Alstadsæter, Johannesen, and Zucman 2018](#)), to picking up leakage in foreign aid and resource revenue ([Andersen, Johannesen, Lassen, and Paltseva 2017](#); [Johannesen, Andersen, and Rijkers 2020](#)).

One notable limitation of BIS data is the fact that both claims and liabilities are allocated based on the country of the ‘immediate counterparty,’ following the guidelines set out in the IMF’s Balance of Payment Manual ([Bank for International Settlements 2019](#); [IMF 2009](#)). For individuals, this typically means that liabilities are allocated according to their residence. Companies and trusts, however, are usually considered resident “in the economic territory under whose laws the entity is incorporated or registered.” (section 4.134 of the BOP manual). This means that banks, when reporting BIS data, do not attempt to ‘look through’ the location of shell corporations to the ultimate owner of an asset. If I am a French tax resident and my offshore bank has my correct residence on file, then they will correctly report the deposits as being French-owned to the BIS. However, if I am a French resident who controls the bank account through a company domiciled in the Isle of Man or the Cayman Islands or any other jurisdiction, then the bank will record the deposits as being

owned by a counterparty in that jurisdiction rather than France. This will be the case even if the bank knows I am a French tax resident and knows I am the beneficial owner. It will be the case even if the whole arrangement is being transparently and legally reported to the French tax authorities through an AEOI agreement. Thus while we would expect BIS statistics to accurately report most<sup>28</sup> offshore financial wealth held by individuals directly, assets controlled via the beneficial ownership of offshore companies will be obscured. While this has been widely acknowledged by the research community working with these statistics, it is hard to know to what degree this reporting practice leads to the misclassification of deposits in practice.

This will be particularly problematic in contexts where most deposits are held through entities like companies and trusts. But understanding the proportion of deposits held by entities versus people is difficult. The Locational Banking Statistics data published publicly by the BIS only distinguishes what proportion of deposits are held by entities versus individuals in aggregate, only for one-third of reporting jurisdictions, and practically for no tax havens.<sup>29</sup>

As I described in the introduction the leak includes the quarterly reports that CNBIOM collated for the LBS from 2013 onward.<sup>30</sup> These reports were then likely submitted to Isle of Man's Financial Services Authority, who then aggregates them and submits them to the BIS. One advantage of this leak is that I am able to observe both the aggregate amounts reported by CNB, but also the customer information used by the bank to assign jurisdictional ownership. This allows me to unpack CNB's BIS reports to understand what proportion of the reported assets are assigned to companies, trusts or individuals based in tax havens and in non-havens. It will also allow me to observe what would happen if those assets were re-assigned based on ultimate, beneficial ownership, rather than on the immediate counterparty basis required by the BIS.

Figure 9 displays the aggregate deposits reported to the BIS by CNB, broken down by what proportion of those assets are assigned to entities (companies or trusts) or individuals resident in both tax havens and non-havens. Two things are of note: the proportion of assets controlled by entities (81%) dwarfs that by individuals (10%) by - on average - a factor of eight. Of assets controlled by entities, nearly 80% are entities registered in tax havens. Given that companies registered in havens are much more likely to be shell corporations -

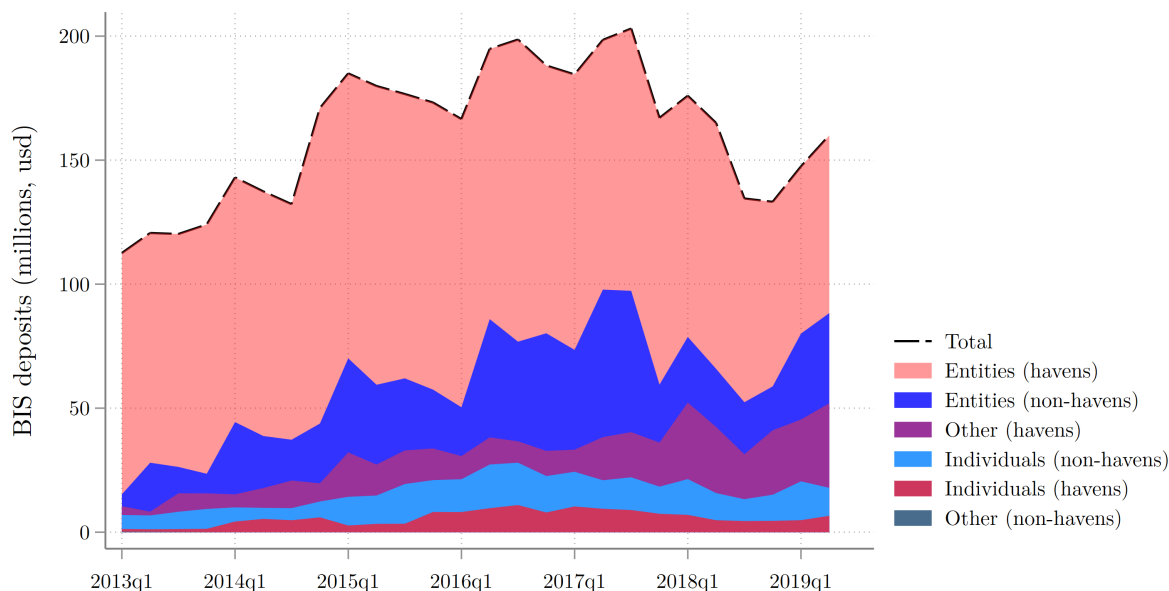
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<sup>28</sup>The exception would be instances where the individual is resident in or associated with multiple jurisdictions and the bank's classification of their residence for the purpose of assigning their deposits deviates from the correct one.

<sup>29</sup>Controlling for GDP-per-capita, the BIS is 35 percentage points less likely to reported deposit data disaggregated by household/entity for tax havens.

<sup>30</sup>It is possible that CNB was filing BIS reports earlier than this date, but this is the earliest date that these reports could be identified in the data.

**Figure 9: Deposits reported to the BIS are dominated by entities, the majority of them registered in tax havens (including Isle of Man)**



**Note:** Author’s estimates from worksheets used by CNBIOM to calculate BIS returns (note these will deviate from total calculated earlier in the paper as not all accounts were included in CNBIOM’s calculations and there may be some differences in exchange rate calculations). Figure shows deposits (in nominal USD, millions) reported to the BIS, broken down by the type of customer and whether the customer is associated with a tax haven or non-haven jurisdiction. Estimates are cumulative (i.e the height of a given shaded area is the the sum of all the shaded areas below it). Entities are either companies or trusts. Individuals are people. Other includes Foundations, Funds and Partnerships. Haven countries include the Isle of Man itself.

those with little or or no economic activity controlled by residents in other jurisdictions - a significant proportion of these assets are likely misclassified for the purpose of understanding ultimate ownership.

Because the leaked data includes beneficial ownership information from between 40 and 80% of all firms (depending on the time period), I am able to go through a simple exercise: re-assigning the ownership of deposits based on the jurisdiction of the beneficial owner, rather than the residence of the company. To do so, I proceed as follows: I take every single beneficial owner entry in CNB’s data, regardless of the date of registration.<sup>31</sup> I match that owner’s unique identifier to the address CNB holds for that unique identifier. If there is no

<sup>31</sup>I also go through a similar exercise where I only assign ownership during the dates CNB indicates the ownership is active, while ensuring that there is always at least one active beneficial owner (e.g. if the account begins on 01/01/2014 but the first beneficial owner is not assigned until 07/01/2014, I assume that the beneficial owner was the owner since 01/01/2014). This does not appear to make much of a difference to the aggregate differences in ownership across jurisdictions, largely because multiple beneficial owners are usually resident in the same jurisdiction.

beneficial owner listed, then I default to the jurisdiction reported to the BIS. If there are  $N$  beneficial owners listed, I assign each beneficial owner an equal share of the account balance in a given quarter. I then aggregate the total account balance assigned to each jurisdiction in every quarter.

There are three chief limitations to this approach. First, I am unable to observe the actual share of ownership of assets, nor is it clear what threshold of beneficial ownership the bank is applying. Thus an individual who only controls a fraction (10-25%) of a company might be listed as the sole beneficial owner, leading to an over-assignment of wealth to their jurisdiction. Second, when there are multiple beneficial owners listed, splitting deposits equally across them might lead to the incorrect-assignment of wealth to certain jurisdictions. However, beneficial owners of shared-accounts appear to frequently be from the same jurisdiction, suggesting this second limitation is not a major concern. Finally the collection of observable beneficial ownership information on both existing and new entities accelerated in 2014 as the bank introduced policies to comply with FATCA and - later - the OECD's CRS (see Figures A7 and A8 in the [Online Appendix](#)). Thus there is non-random variation in the share of entities that are covered across time. This means that changes over time in the amount of assets allocated via beneficial ownership should be viewed with some caution.

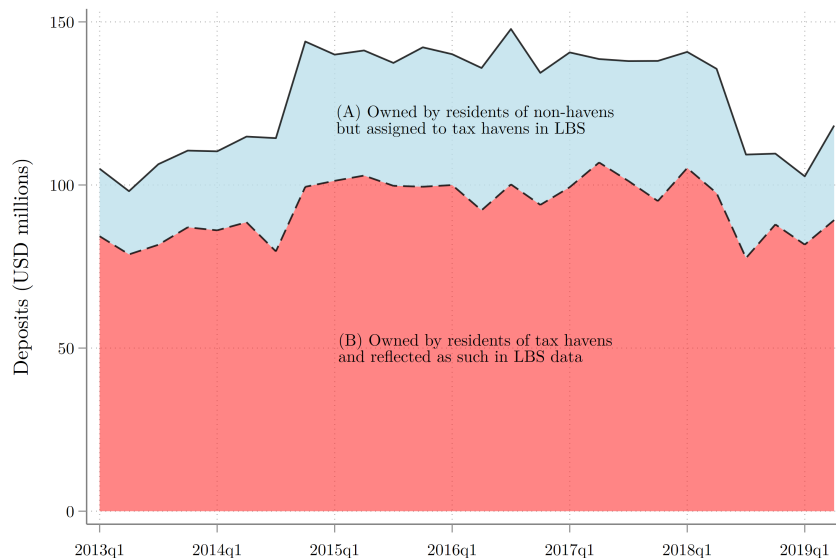
Figure 10 investigates how deposits allocated to exchange jurisdictions or to havens changes when beneficial ownership is taken into account. It shows aggregate deposits over time, divided by two groups: those assigned to tax havens and those assigned to non-havens, both before and after those deposits are re-allocated based on beneficial ownership. The solid line indicate the aggregate stock of deposits when I use the traditional method that the BIS relies on for the LBS and the dashed line indicates the estimate when I allocate assets using beneficial ownership.

Using BIS's method of allocating deposits for the LBS, deposits allocated to tax havens (local IOM deposits plus foreign deposits owned by residents of tax havens) total to between roughly 100 and 150 million USD, with deposits assigned to non-tax havens totalling between 7 and 65 million. When deposits are re-assigned based on beneficial ownership, the total amount allocated to tax havens drops by between 20-32%. By contrast, deposits assigned to non-havens are, on average 115% higher when they are reallocated this way. This result is likely to be a significant underestimate, both because beneficial ownership information was not available for every entity, and out of the entries in the beneficial ownership database in the leak, nearly 60% are based in tax havens themselves, a sign that the beneficial owner being listed in these instances is unlikely to actually be the ultimate beneficial owner, but another shell company or a stand-in individual.

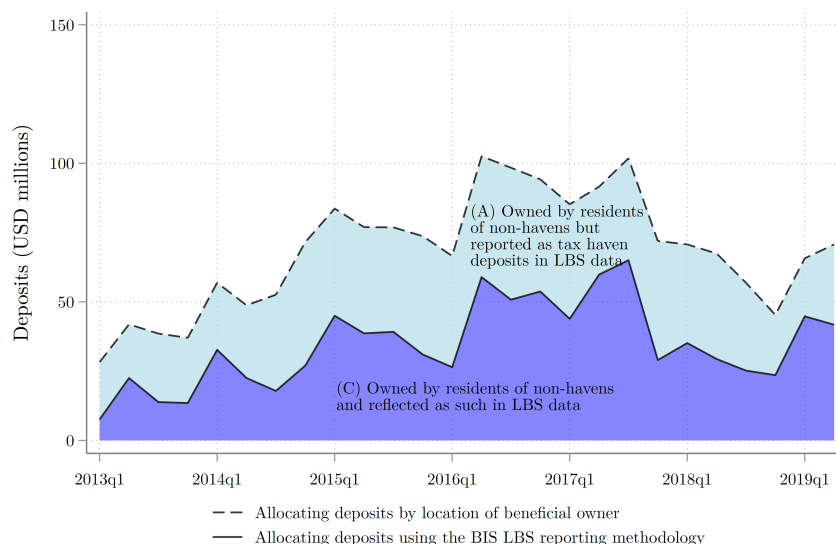
These results suggest that any methods that solely rely on BIS deposits are likely to sub-

**Figure 10: Deposits assigned to tax havens and non-havens using different methodologies (LBS versus beneficial ownership)**

**(a) Deposits owned by residents of tax havens**

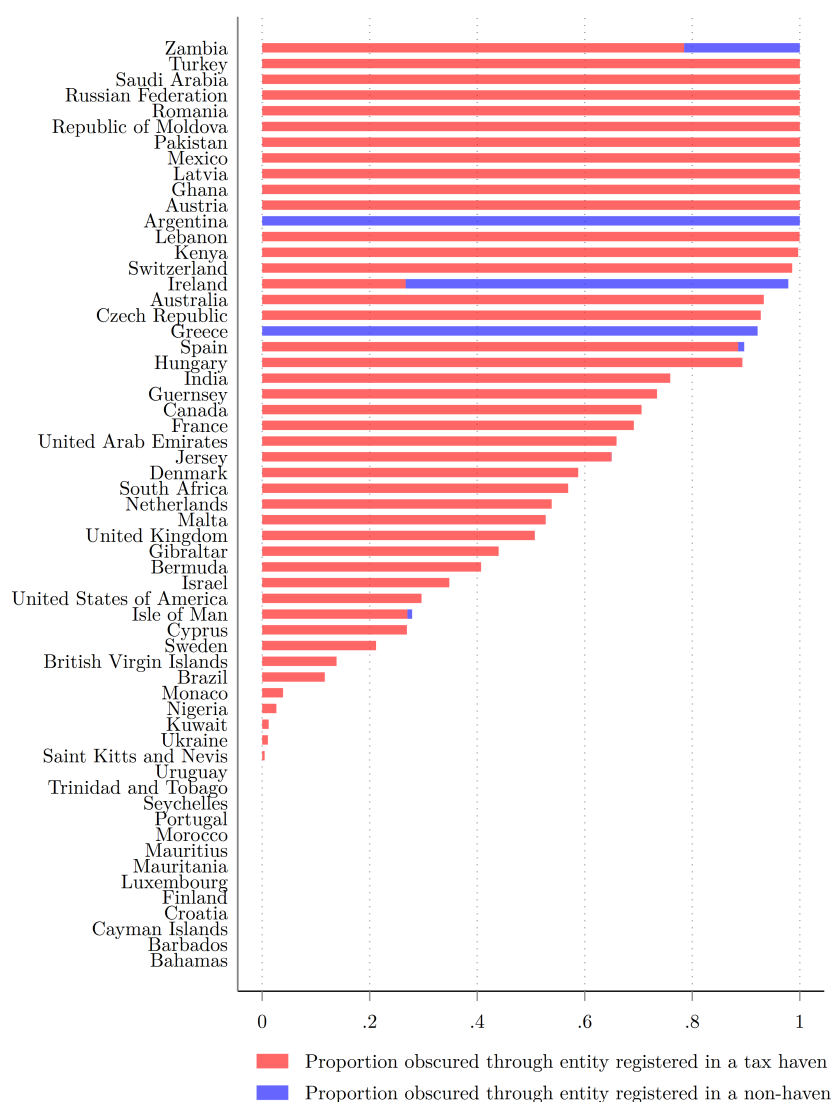


**(b) Deposits owned by residents of non-havens**



**Note:** Author's estimates using CNBIOM submissions for BIS Locational Banking Statistics. Figure shows the overall amount of deposits (excluding loans and investment accounts) for non-havens and havens (including the Isle of Man) respectively. The dashed line indicates the deposit amount calculated by assigning deposits to any listed beneficial owners. The solid line indicates deposit amounts calculated using the Bank of International Settlement's Locational Banking Statistics reporting methodology. All estimates are in current USD. Haven classification follows that of [Tørsløv, Wier, and Zucman \(2020\)](#).

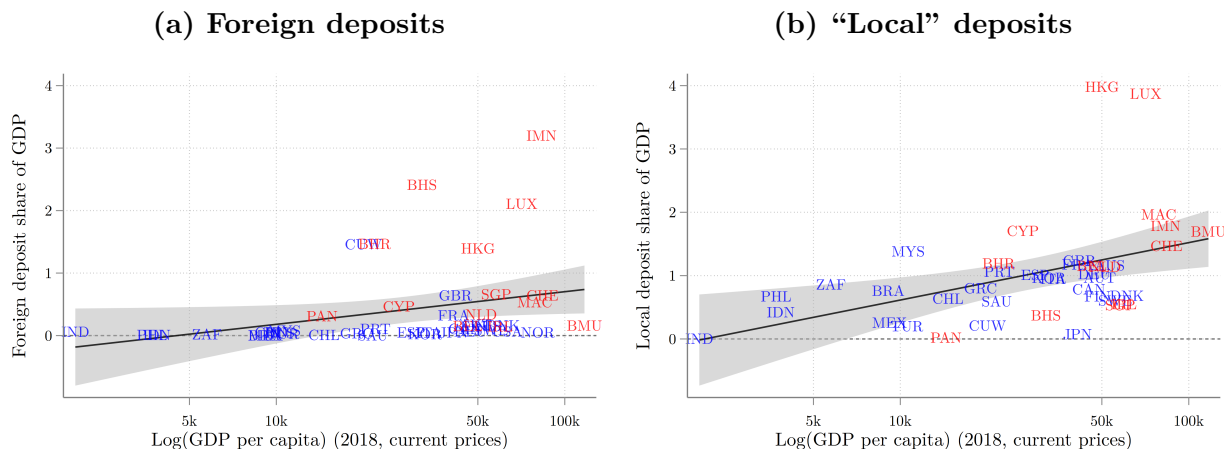
**Figure 11: Share of deposits that are obscured from BIS reporting due to the use of a company registered in a different jurisdiction than the beneficial owner(s)**



**Note:** Author's estimates using submissions for BIS Locational Banking statistics and CNBIOM's beneficial owner register. Figure shows the share of all deposits (individual + entity + other), averaged over the Q1-2016 to Q3-2019 period) that are obscured from BIS reporting because the location of the beneficial owner differs from the location of the entity being reported on. Red bars indicate the share that are obscured by an entity located in a tax haven, blue indicating the share obscured by an entity located in a non-haven. Only jurisdictions with an average account balance exceeding \$10,000 are shown here.

stantially understate the amount of offshore wealth held by either jurisdictions participating in exchange-relationships or non-haven countries. It also suggests that the prime use of the BIS LBS - to understand sources of cross-border risk, is likely to be compromised by the fact that the LBS does not consider the ultimate source of ownership (and thus both the degree

**Figure 12: Tax havens have higher levels of foreign-owned deposits relative to their GDP, but also “local” deposits**



**Notes:** Each scatterplot shows the relationship between non-bank deposits reported in the last quarter of 2018 by the BIS for each jurisdiction, as a share of GDP (2018, current prices), and the log of GDP per capita (2018, current prices) for that jurisdiction. Figure (a) shows the relationship for all foreign owned deposits and Figure (b) shows the relationship for all deposits classified by the BIS as locally-held. Linear estimates with 95% confidence intervals are shown. Jurisdictions commonly-classified as tax havens are highlighted in red.

and the likely source of cross-border risk).

A large proportion of offshore wealth is disguised from BIS statistics due to the way they are collected. Is this problem worse for some countries than others? To investigate this, I calculate the average size of deposits (between Q1 -2016 and Q3-2019, as this was the period that coverage of the BO data was relatively consistent) allocated to each jurisdiction using the beneficial-owner method described above. I then calculate the total share of those deposits which are assigned to a different jurisdiction in the BIS, both for haven jurisdictions and for non-haven jurisdictions, including the Isle of Man. Figure 11 displays the breakdown for all jurisdictions with greater than \$10,000 in average deposits. Many jurisdictions are entirely absent from the BIS data: for example, Zambia, Saudi Arabia, and Russian deposits are completely obscured because of ownership through a company or trust based in another jurisdictions. Countries with ostensibly better governance seem equally likely to have obscured deposits: over 40% of British deposits are obscured from the BIS, nearly 60% of French deposits, and over 60% of Dutch and Spanish deposits. In most (but not all) cases, deposits are obscured through a company based in a tax haven. There do not appear to be any country correlates of the propensity for deposits to be under-reported through the BIS, at least not in the leaked data: neither GDP-per-capita nor a country’s score on Corruption Perceptions Index hold any predictive value.



This obfuscation of the actual counterparty for offshore assets is almost certainly a “tax haven problem,” as these are the jurisdictions where shell companies are most prevalent. We know from Figure 1 that the Isle of Man saw an uptick in locally held deposits in the early 2010s, and we know from the results above that a significant proportion of “local deposits” in tax havens are actually owned by residents of other jurisdictions. It is likely then that a significant share of local deposits reported to the BIS by haven jurisdictions are not local in any meaningful sense of the world. Tax havens have a higher foreign deposit-to-GDP than their GDP-per-capita would predict (Figure 12-a), which is to be expected, given their reliance on foreign customers. But they also have a much larger share of local deposits than their GDP would predict (Figure 12-b), a further indication that these deposits may be largely illusory.

Aside from general measurement issues the presence of shell companies in tax havens create for the BIS, these results have two implications specifically for research on cross-border tax evasion, which I will consider in turn next.

### *Allocating ownership of offshore wealth to different jurisdictions*

The use of BIS data to understand either the size or the relative distribution of offshore wealth owned by households may be undermined by the fact that there is heterogeneity in the relative share of (i) deposits owned by entities and (b) deposits that are obscured through that ownership. For example, [Alstadsæter, Johannesen, and Zucman \(2018\)](#) assume that the share of non-bank deposits allocated to a counterparty jurisdiction in the BIS tracks that of the share of all wealth that households from that jurisdiction hold. These shares are then used to allocate (for offshore wealth held outside of Switzerland) their global estimate of offshore wealth to different jurisdictions.

The ability to look under the hood of the BIS statistics for this single bank makes it possible to see how well this assumption might hold in reality. First, I calculate for each jurisdiction its share of all non-bank deposits reported in CNB’s submissions for the BIS (as before, average over Q1-2016 to Q3-2019). Then I calculate each jurisdiction’s share of deposits *held by individuals*, as classified by the bank itself. Figure 12 shows, in blue, a scatter between these two shares for all non-haven jurisdictions. While there is a positive relationship between the two (with a correlation coefficient of 0.57), there are pretty large differences for some countries: the UK is assigned around 20% of all non-bank deposits, but British individuals only hold about 12.5% of individual non-bank deposits. By contrast, less than 5% of all non-bank deposits are attributed to Israel, but Israeli individuals control nearly 20% of all individual deposits. Next, I re-allocate deposits by beneficial owner, and recalculate each jurisdiction’s share of individual deposits so it includes both deposits directly

attributed to individuals and deposits attributed to beneficial owners. That relationship is shown in red in Figure 13. Again, there are some outliers: deposits held by British individuals and beneficial owners soar to 40% of the total for this period. However, a number of other jurisdictions move closer to the 45 degree line. In fact, the correlation between the two is 97%. This suggests that the allocation of global estimates of offshore wealth based on observed shares of BIS deposits, in this instance, may actually be fairly accurate on average, once we take beneficial ownership into account. However, there are still major differences for the largest depositor in the economy - the United Kingdom, and for a handful of jurisdictions that do not appear in the BIS data at all (which can be seen straddling the y-axis, such as Argentina, Mexico, and Moldova). If these differences persist across other banks and for other major depositors in other havens, it may mean that the allocation of global wealth to these economies is less accurate.

There are two chief caveats to consider. First the structure of ownership for deposits at this particular bank will deviate from that of the rest of the Isle of Man, or the offshore economy. Second, I only observe the submissions made to the Isle of Man's regulatory authority, so there may be aggregation decisions made that I am unable to observe. These results should not be taken as representative as the way offshore wealth is structured, but they should give researchers a strong reason to doubt that wealth that goes unobserved in BIS statistics has a straight-forward, consistent relationship with observed wealth.

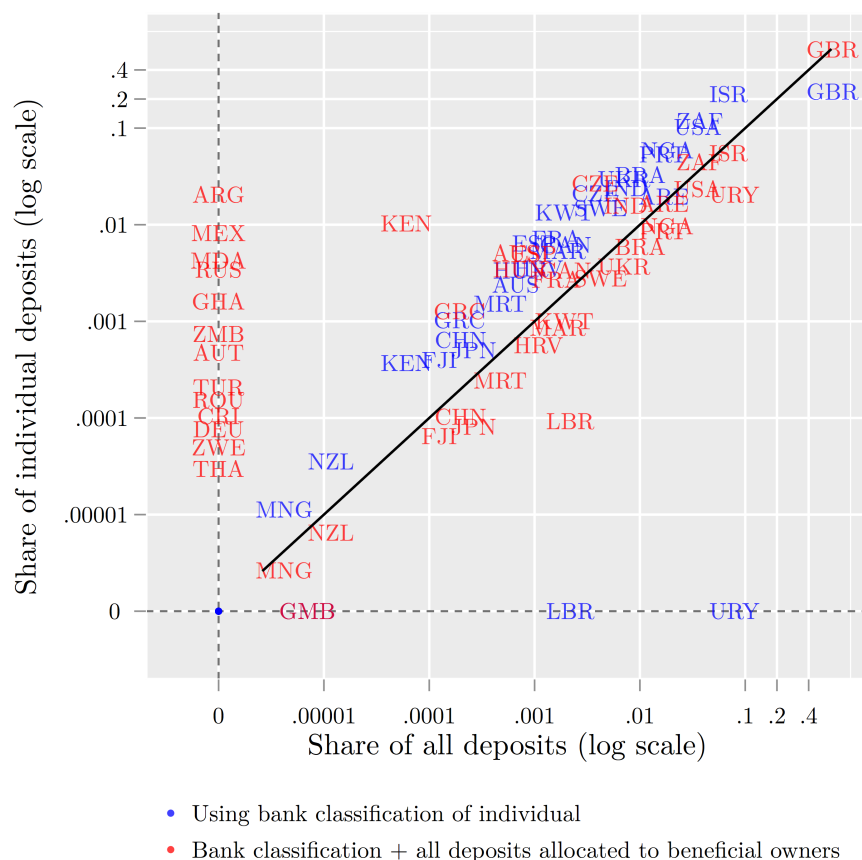
### ***Assessing the aggregate impact of policies on offshore deposits***

The fact that a large proportion of deposits is 'hidden' through the use of entities in tax havens also has implications for studying the aggregate impact of transparency policies on offshore wealth.

The first is which deposit-owning jurisdictions should be in the control group. If a large proportion of deposits owned in tax havens like the Isle of Man by other haven jurisdictions are actually non-haven deposits in disguise, then we would expect these deposits to fall as well after a transparency policy like automatic exchange-of-information (AEOI) is introduced (if it succeeds in its goal of identifying beneficial ownership). That means that haven deposits in other havens cannot be a valid control group, nor should they necessarily be considered a valid sample for falsification tests. To date, none of the main investigations of AEOI have used haven deposits owned by other havens as a control, but at least one study ([Menkhoff and Miethe 2019](#)) uses haven deposits in other havens as a falsification test, finding no effect. [Casi, Spengel, and Stage \(2020\)](#) explore this further using more recent data and find roughly a 11% drop haven deposits owned by other havens once the AEOI agreement is signed.

The second concern is that the effect of exchange policies on deposits owned through

**Figure 13: Relationship between the share of overall deposits allocated to a jurisdiction in CNB’s BIS reporting and the share of deposits held by individuals (non-haven deposits only)**



**Note:** Author’s estimates using submissions for BIS Locational Banking statistics and CNBIOM’s beneficial owner register. The x-axis shows the average (Q1-2016 to Q3-2019) share of all deposits (individual + all other) allocated to a jurisdiction in CNB’s submission to the Isle of Man’s Financial Services Authority for the preparation of BIS statistics. The y-axis shows the share that jurisdiction has of all individual deposits when (in blue) individual deposits are calculated using CNB’s classification of an account and (in red) deposits reallocated by their beneficial owner are added to individual deposits. For example, despite being around 20% of overall deposits during this period, the UK only makes up around 12.5% of individual deposits. However, when adding in deposits controlled by beneficial owners, the UK makes up close too 40% of individual deposits. The black line is the 45 degree line.

shell companies versus individual accounts may be different. For example, the AEOI regime put forth by the OECD requires banks to look through a company to identify the beneficial owner. But this will be harder to accomplish than identifying the residence of an individual account. If the impact of AEOI on deposits owned by these companies is lower than that on individual accounts, the aggregate impact of AEOI policies may be smaller than has previously been estimate. The evidence from [Casi, Spengel, and Stage \(2020\)](#) and [Menkhoff](#)

and Miethe (2019) suggest that the effect might be lower - but it depends on what share of haven deposits in other havens are actually deposits from non-haven countries. The larger that share, the lower the total effect policies like AEOI may have on all offshore deposits.

The above two concerns hold when exchange-of-information policies change the incentives to hold assets through a shell company. However, it is also possible that if they are imperfectly enforced, they might *increase* incentives to increase or decrease the proportion of offshore assets held in a company. For example, if information exchange increases the relative secrecy of shell company ownership, the decline observed in macro studies may be measuring a displacement of deposits from individually-held accounts to accounts maintained by shell companies in havens, which would result in estimates that are biased downward. Conversely, if AEOI removes the only benefit to ownership through shell companies, deposits may be displaced between shell company ownership (unobserved in the BIS) to individual ownership (observed), meaning aggregate estimates are biased towards zero.

In general, the presence of shell companies makes the investigation of both the scale of offshore evasion and policies aimed at curbing it somewhat precarious. In the next section I will discuss a few ways that new reporting requirements would improve the researcher's and policy-maker's ability to discern the real from the imaginary.

## 6 Discussion and Conclusion

### *Taxing the rich*

The first descriptive result this paper highlights is not a surprising one, but one worth confirming: the customers of offshore banks are likely to be from the wealthiest segment of whichever society they come from. This is in keeping with a number of studies showing the wealthiest are more likely to engage in offshore tax evasion (Londoño-Velez and Ávila-Mahecha 2020; Guyton et al. 2021). The policy prescription for countries who are concerned about their own citizens stashing cash abroad is not a new one: the likelihood of offshore evasion rises sharply with wealth and income, and audit risks should reflect that. However, even audits will miss out on a large share of offshore evasion. This leaves governments with two routes to enticing wealth to come back home: piercing the veil of secrecy that offshore accounts provide and providing direct incentives for taxpayers to declare their wealth.

The main tool that most countries now use to break down the information barrier is the OECD's Common Reporting System for the Automatic-Exchange of Information (AEOI), which has shown to be effective in reducing offshore deposits. It also has shone a light on a large swath of wealth: according to the OECD, the latest round of AEOI exchanges led to

the reporting of 84 million bank accounts, totalling \$11.2 trillion in assets. However, less is known about the denominator: what financial wealth isn't being picked up by the reporting regime.

The next phase of this research will grapple with the overall effectiveness and impact of AEOI as it was implemented by CNBIOM. But it is worth noting that, in aggregate, only around 25% of the bank's deposits ended up being reported through any form of AEOI (see Figure A6 in the [Online Appendix](#)). Some of this will be because there needs to be further movement on the extensive margin: there are still customers who are from - or purport to be from - jurisdictions that have yet to sign up to AEOI. But this is also likely because of lack of complete coverage of the intensive margin: there are some customers who probably should be reported on, but successfully arrange their affairs in a way that the bank is unlikely to determine they are reportable. There may also be deposits which are legitimately exempt from reporting. While a bank may be able to be confident in its ability to discern between these, tax authorities around the world are largely in the dark about whether these choices are being made correctly. When they case a net out into the sea, they can easily observe what they caught when they haul it back up, but still face great uncertainty as to what remains beneath the surface.

The other means that tax authorities can entice wealth back home is through the introduction of amnesties or voluntary disclosure programs ([Langenmayr 2017](#); [Johannesen, Langetieg, Reck, Risch, and Slemrod 2020](#); [Lenders, Lejour, Rabaté, and van't Riet 2020](#)), although these are typically most effective when combined with an increase in the probability of detection ([Andersson, Schroyen, and Torsvik 2019](#); [Alstadsæter, Johannesen, and Zucman 2019b](#)). The next paper in this research project will also investigate whether CNBIOM's clients reacted at all to changes in incentives to report their wealth back home.

### *Keeping an eye on political elites by constructing a new risk indicator*

Despite ongoing concerns about the presence of political elites in international banking, a number of politically exposed persons (PEPs) continue to maintain accounts in offshore banks. The presence of any one PEP does not mean anything untoward is happening and the analysis in this paper on the accounts of PEPs would not be possible if the bank had not been carrying out its obligations to identify and monitor these accounts. Even so, there are a number of reasons to be concerned: PEPs are more likely to hail from countries with weak institutions, and seemingly wield more wealth and transact more with other tax havens than other offshore customers.

To better guard against the possibility the PEPs are abusing the financial system to hide ill-gotten gains, the FATF should call on governments to require banks to produce

aggregate, country-by-country statistics on the number of PEP clients they have (and, when available the amount of wealth they control) and the number of PEP ‘hits’ they get on an annual basis. If these trends were compared to more innocuous sources of cross-border flows, this would better allow law enforcement and financial intelligence units to discern whether their economies are likely to be a destination for corrupt and illicit funding. Similar to the gathering of suspicious transaction reports, the existence of a single PEP would not be a sign of corruption, but the existence of a large number of (or drastic increase in) PEPs from a more corrupt jurisdiction would be a significant red flag.

This would not create an undue burden on banks nor add to their compliance costs: financial institutions should already be maintaining and monitoring their PEP clients, so the only additional action needed for compliance would be to aggregate the information and submit it to their relevant FIU. This would provide regulators with a bird’s eye view of the presence of foreigners with political power in their financial system, without relying on the bank’s discretion on when or if they should file a suspicious transaction report.

This might be seen as running against [recent signals](#) from regulators that PEPs are not inherently higher risk and should be considered through the same prism of factors that banks use to rate the risk of all their customers. I think the evidence here suggests that a higher ‘inherent’ risk rating for PEPs (at least those with accounts in offshore jurisdictions) would be warranted, but compiling an aggregate database of the presence of PEPs would not necessarily be an admission of this. It would simply be a useful source of information amidst the dashboard of data that financial regulators rely on to make decisions and assess risks.

### ***Fixing international statistics so they better reflect real ownership***

As I highlighted in Section 5, opaque ownership structures create measurement issues for international databases like the BIS’s Locational Banking Statistics. These measurement issues can be substantial, at least when the data is being used to understand which jurisdictions have claims on deposits in tax havens: when I re-assign deposits based on (likely incomplete) data on beneficial ownership information, the amount of assets assigned to non-tax havens can potentially double.

However, this is not a problem of transparency: it is a problem created by the way the statistics are collected and aggregated. Most banks, thanks to the requirements by FATCA and the OECD’s CRS, should have some information on the ultimate beneficial owner of a given company or trust, but Locational Banking Statistics reporting requires them to ignore this information in favor of the location the entity is technically domiciled. While this may be a meaningful distinction for most economies in the world, it is less so for shell companies

based in tax havens.

There are two ways this measurement issue could be addressed, neither of which is perfect. The first would be for the BIS to create a new reporting category (ultimate counterparty basis), which requires banks to identify any beneficial owner(s) and assign deposits based on their jurisdiction of residence. One challenge would be assigning the ultimate counterparty for firms who are foreign-owned, but locally active (subsidiaries, but not actually shell companies), but these could be reassigned based on the location of the firms head quarter, for example.

The second approach would be to utilize the AEOI reporting regime to better understand how well BIS statistics reflect actual ownership in a given jurisdiction. This will have some limitations as, while most jurisdictions that report for the LBS have adopted some form of AEOI, they are not required to report on every jurisdiction around the world (mostly only others that have joined the OECD CRS). As OECD CRS data is collated first by local tax authorities before it is exchanged internationally, this presents an opportunity for those authorities to aggregate this information and report it publicly. This practice is slowly being adopted by a handful of countries, thanks to the lobbying of civil society organizations like the [Tax Justice Network](#). For example, Australia [recently](#) began reporting this information, starting with the year 2018. Figure 14 shows the ratio between deposits assigned to a jurisdiction via the OECD CRS and those assigned to jurisdiction under the BIS LBS.<sup>32</sup> The higher that number is, the greater the proportion of deposits that are being picked up by CRS reporting that are not being picked up under BIS reporting. As can be seen in the figure, we see a similar shift downward for popular tax havens: they are much more likely to see a ratio lower than one, indicating that many of these deposits are rightfully owned by residents of other jurisdictions. The ratio is also higher for poorer countries, a result consistent with the results in Section 3 indicating that clients from poorer countries were more likely to control deposits through a company or trust.

### *Lifting the veil of secrecy*

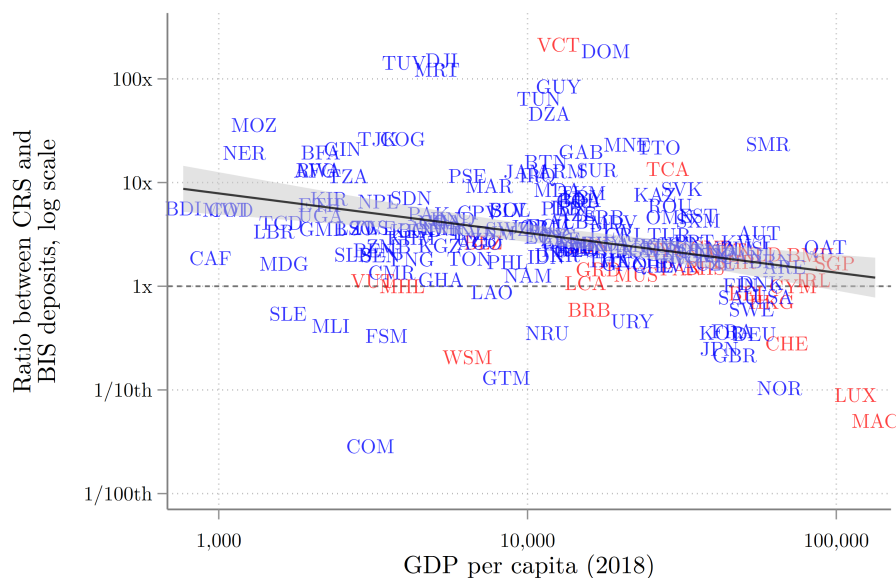
This paper began by presenting a problem: governments struggle to know where money flows outside their own borders, and the ability of individuals to park cash in the guise of an offshore company or trust makes this all the more difficult.

It also makes it more difficult to discern the illicit from the licit. A single bank like CNBIOM can cater to many legitimate business interests and individuals who have honest

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<sup>32</sup>It should be noted that there are several reasons these figures will always deviated. First, Australia has assigned the entire account balance to each beneficial owner of an account (this could be corrected in future publications). Second, there is not a perfect overlap between the range of financial institutions that have to report to the BIS and those that have to report under the OECD CRS.





**Note:** Author's estimates using the BIS Locational Banking Statistics for Australia for Q4-2018 and Australia's reporting of foreign account balances under the OECD CRS. Jurisdictions highlighted in red are tax havens.

reasons to keep their money offshore. But even when banks work hard to turn away or report on customers who are likely to be abusing the system (as was evidently the case here), they will inevitably host wealth which is illicit, either because someone should have paid tax on it or because it was stolen from someone else.

The results in this paper show that shell companies and trusts form a kind of black-out curtain that hides what is a constellation of different actors with wildly different interests, including pro golfers, political elites being tried for corruption, and large German payment companies brought down by fraud. The sheer number of corruption scandals linked to large international banks over the past decade suggests that banks themselves are never going to be completely successful at self-policing, and that more needs to be done to help tax authorities and law enforcement agencies to understand - en masse - who controls offshore wealth, rather than in the piecemeal fashion that most authorities share information with one another.

The advent of automatic-exchange-of-information will have helped with this tremendously. But successfully lifting the veil of secrecy will likely require more substantial interventions, such as the establishment of beneficial ownership registries or better regulation



of corporate service providers ([Harari, Knobel, Meinzer, and Palanský 2020](#); [Knobel 2020](#); [Findley and Sharman 2020](#)). The former is becoming more commonplace around the world: the Isle of Man has had a beneficial ownership registry in place since 2017, overseen by the IOM Financial Services Authority. Yet it will be a few years before the registry is fully opened to public scrutiny, making it hard to assess whether the information that is submitted to the Financial Service Authority is accurate or not. Ultimately, it may be the latter that may be more crucial in the fight against corrupt and criminal assets than the banks themselves, as recent research has suggested that it is the corporate service providers that help people with ill-gotten gains arrange their affairs offshore that are both one of the weakest links in the system, and those best poised to defend the international financial system from illicit wealth ([Findley, Nielson, and Sharman 2014](#)).

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