The Beauty of Grey: Bank Transfers and Anti-Money Laundering Provisions*

Ronald B. Davies† Thea Heiene‡ Johannes Scheuerer§
Dag Einar Sommervoll¶

August 26, 2026
Initial Version: July 2026

Abstract

International bank transfers are the lifeblood of the global economy, funding trade and investment, but they can also conceal profit shifting and illicit activity. Multilateral efforts to grey-list worrisome countries aim to curb such flows, yet evidence of their effectiveness remains limited—perhaps because it relies on aggregate data dominated by unaffected, legal transactions. Using unique granular data from Norway (2012–2021), we likewise find no significant relationship for the average grey-listing effect. Even in the aggregate, however, inbound transfers from listed tax havens are markedly lower, and decomposing by transaction purpose reveals that import payments, interest, and dividends—especially to tax havens—are associated with values roughly two-thirds lower when a haven is listed, a pattern driven largely by multinationals. This suggests that listing may be associated with reduced profit shifting as well as illicit flows. The pattern is more pronounced after Norway aligned its anti-money laundering rules with EU mandates, pointing to the potential value of combining unilateral and multilateral approaches.

JEL codes: F14, F23, H26
Key words: Bank Transfers, Tax Havens, Tax Evasion, Grey-listing

*Financial support from The Research Council of Norway (grants 341289, 353670) is gratefully acknowledged.

†ronald.davies@ucd.ie. *School of Economics, University College Dublin and Skatteforsk, Norwegian Centre for Tax Research.*

‡thea.heiene@nmbu.no. *School of Economics and Business, Norwegian University of Life Sciences and Skatteforsk, Norwegian Centre for Tax Research.*

§johannes.scheuerer@nmbu.no. *School of Economics and Business, Norwegian University of Life Sciences and Skatteforsk, Norwegian Centre for Tax Research.*

¶dag.einar.sommervoll@nmbu.no. *School of Economics and Business, Norwegian University of Life Sciences. NTNU Trondheim Business School.*

1 Introduction

Money may not make the world go round, but it certainly goes around the world. Global cross-border payment flows are estimated at roughly $150 trillion per year and projected to exceed $250 trillion by 2027 (McKinsey & Company, 2024) with international bank transfers playing a significant role in these movements.[1] While such flows embody the multitude of beneficial activities that comprise the global economy, they can also conceal illicit activity (or at least transfers which the involved parties prefer to keep hidden from official scrutiny).[2] In response, governments have made efforts to curb such flows by implementing anti-money laundering regulations (AMLs) and grey-listing countries as having insufficient AMLs (with the Financial Action Task Force (FATF) being the predominant such list). The natural question is thus to what extent these policies have impacted international financial flows.

To this end, a literature has emerged attempting to estimate the impact that FATF grey-listing had on a country's financial flows. Kudrle (2009) was an early contribution that focused specifically on flows to tax havens, finding no significant impact. In contrast, the work of Farias and de Almeida (2014) and Kida and Paetzold (2021) find a negative impact when looking at emerging and developing economies. This is mirrored in the estimates of Balakina et al. (2016) who uses a fairly broad set of nations, as well as the recent work of Lagarda and Verastegui (2026) on cross-border financial flows following FATF grey-listing. Interestingly, this work tends to find more significant impacts on a grey-listed country's inflows than its outflows. Morse (2019), who looks exclusively at inflows, supports this result. A question unanswered by this literature, however, is how grey-listing's effects may relate to the characteristics of those involved in a transaction, e.g. are multinational enterprises (MNEs) more or less impacted by grey-listing? Using transaction-level data from the Norwegian Currency Registry running from 2012-2021, we contribute to the literature by using a gravity-style approach to estimating international bank transfers. The closest work to this is that of Collin et al. (2019), who estimates the number of SWIFT messages, i.e. the number of transactions. They do not, however, have data on the value of transactions nor are they able to link it with senders/recipients as we do. Our data also contains the final destination of the transaction, whilst SWIFT messages will not necessarily show the end destination of a transaction if it passes through several countries in the SWIFT system[3].

Overall, our estimates suggest that as a headline figure, grey-listing has no significant relationship to international bank transfers. This then mirrors Kudrle (2009). That said, even in the aggregate, we do find results when distinguishing between listed havens and non-havens with the results more apparent in listed havens. There, our results suggest that inbound flows from listed havens are lower by approximately two-thirds. No

[1] No official body compiles a global gross bank-payment total, though the Bank for International Settlements reports the outstanding stock of cross-border bank claims at approximately $46 trillion at end-2025 (Bank for International Settlements, 2026).

[2] See the work of Alstadsæter et al. (2018), Johannesen and Zucman (2014), and Zucman (2013) among others for a discussion of illicit financial flows.

[3] For instance a transaction from a Kenyan bank to the US might go through a correspondent bank in the UK, and might thus be coded as a transfer between Kenya and the UK (Collin et al., 2019)

significant difference is found for outbound transfers. That said, this null result for the average listing effect masks significant heterogeneity. When decomposing the outbound flows by purpose of the transaction (goods, services, capital returns, and capital transfers), we find significantly lower values for goods (imports) and capital returns (interest and dividends) payments to tax havens when the haven is listed. Likewise, when comparing transfers by multinationals (MNEs) and domestic firms, the results point to a much larger reduction in MNE transfers when a haven is listed. Together, these suggest that grey-listing may be associated with reduced profit shifting as well as illicit financial flows. Using firm-level data, these results find further support, i.e., when a country is listed, transfers to havens by MNEs tend to be lower.

Therefore, by using our unique access to granular data, we are able to observe potential grey-listing effects that would otherwise be hidden in the aggregate.

As a secondary contribution, given the Norwegian granular nature of our data, we estimate the interplay of listing and the major changes in Norway's anti-money laundering legislation that were put in effect in 2018 (Hvitvaskingsloven, 2018), as an implementation of the EU's fourth anti-money laundering directive. It was en extention of existing rules, formalizing (amongst other things) the duties of banks and other obligated entities to conduct customer due diligence, monitor transactions, and report suspicious activity to authorities. The 2018 revision tightened customer identification requirements, expanded coverage of obligated entities, and strengthened beneficial-ownership and enhanced-due-diligence rules for high-risk jurisdictions. With this in mind, we examine how the estimated difference in transfers when a country is listed varied depending on this AML provision. When doing so, we find that the reductions are generally clearest after Norway took this step. This then suggests that the greatest effectiveness in combating illicit financial flows may be found when combining multilateral and unilateral efforts.

That said, it is important to recognize that the estimated impact does not necessarily indicate the desired effect. If there is no change in financial flows, this can point to either ineffectiveness or a low-cost regulation that does not impact the presumed-majority legitimate flows. Conversely, a decline in transfers can imply a reduction in illicit flows as well as legitimate ones meaning that the regulations may come at a significant cost.

The paper proceeds as follows. In the next section, we discuss our data and present some overarching patterns found within them. Section 3 estimates the relationship between transfers and grey-listing. Section 4 undertakes a similar analysis for Norway's 2018 AML regulation overhaul. Section 5 concludes.

2 Data

In this section, we describe our dependent variable, our various controls, and our empirical approach.

2.1 Bank Transfers

Our data come from the Norwegian Currency Registry which was established in 2005 (Valutaregisterloven, 2004).[4] Under its watch, all banks and financial institutions in Norway with permission to trade in foreign currency are required to report all of their cross-border bank transfers. Note that our data only covers international bank transfers and not, for example, cross-border credit card transactions. Although the data series begins in 2006, in its early years values were rounded to the nearest 1000 Norwegian krone (NOK) (Heiene et al., 2025). In addition, some information we make use of were not collected until 2012, hence our sample begins then and ends in 2021 (with the end date driven by the availability of some controls). In this paper we use only transfers where the Norwegian part is a firm.

This transaction-level dataset records whether a given transaction is inbound to Norway or outbound to a foreign bank, the foreign bank's country, and the value of the transaction in NOK and in foreign currency. In addition, for outbound transactions, it records the broad purpose of the transaction. We combine this into four categories: payment for goods, payment for services, capital returns (e.g. interest and dividends), and capital transactions (e.g. real estate purchases or foreign direct investment).[5] We follow the data cleaning recommendations of Heiene et al. (2025) regarding duplicate entries and cleaning of questionable outliers.

In addition to characteristics of the transaction itself, each transaction comes with a unique identifier for the Norwegian party, be that a person or a firm. We focus on those transactions by firms which account for the greater share of transactions as measured by value. Using this identifier, we are able to link the transaction to the firm's corporate tax return and balance sheet.

We use this information to create multiple dependent variables. First, following the bulk of the existing literature, we aggregate the value of transactions to the country-year-direction (ctd) level. Alternatively, and closer to Collin et al. (2019), we sum up the number of transactions by ctd. As discussed above, however, our contribution is the granularity of the data. To exploit this, we first decompose this aggregate into country-year-direction-purpose ($ctdp$) values, i.e. the total value of transactions taking place under one of the four above categories. Second, by categorizing firms as multinationals (MNEs) or not, we create the aggregate ctd flows by MNEs in Norway and by purely domestic firms ($ctds$ where s is MNE status). Finally, we directly use the value of transactions by a given firm i to ctd. To simplify notation, we generically use the designation $ctdk$ where $k \in \{a, p, s, i\}$ will indicate the aggregate, purpose, MNE, or firm-level category.

Figure 1 illustrates the trend in inbound and outbound transactions over time while Figure 2 does so for the number of transactions. Two features are found. First, in terms of total value, there was an increase from 2012 to 2015, then a decline until 2018 (the year of the AML legislation in Norway). The number of transactions, however, rose steadily until falling in 2018, then returning to an upward trend. This suggests that the AML may

[4]For more information, see https://www.ssb.no/utenriksokonomi/utenriksregnskap/statistikk/betalingsstrommer-mellom-norge-og-utlandet.

[5]This information is either missing or in an unclear "other" category for just under one-third of transactions. When using our dependent variable at the purpose level, we omit these transactions.

have impacted international bank transactions. Second, while the inbound value exceeds that of outbound transactions, the reverse is found for the number. Thus the average size of inbound transactions is consistently above that for outbound transactions.

Figure 1: Transfers over Time



Note: Values in billion NOK.

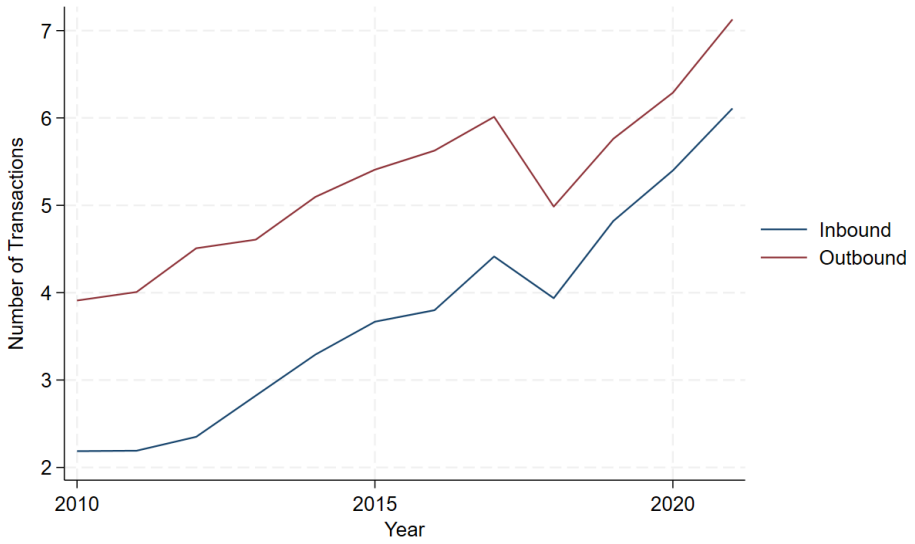
Figures 3 and 4 illustrate the relative value of transactions by country for 2018. As this shows, flows are concentrated within Europe and large countries such as the US, Canada, and China. This then suggests that transactions may follow the "gravity" pattern found in trade and foreign direct investment in which proximity and country size are predominant factors predicting flows. Given that four purposes align with trade in goods, services, and FDI, this is unsurprising.

This gravity pattern is reinforced by Figure 5 which shows the relative size of inbound and outbound transactions for the nations that rank in the top twelve for at least one of these directions, yielding thirteen countries in total. The top two partner countries are the UK and Sweden, with the former slightly ahead in terms of total transfers with Norway. They are followed by the Nordic Denmark and Finland, suggesting the importance of geography. The other feature to notice is that four tax havens – Belgium, the Netherlands, Luxembourg, and Ireland – also feature in this group. This motivates our investigation into how transactions relate to tax haven status below.

In Figure 6, we illustrate the values of outbound transactions that fall within our four purpose categories over time.[6] Two items become immediately apparent. First, capital transactions dominate outflows by a wide margin. Second, there is a collapse in the values attributable to a given purpose in 2020. This is because the share of transactions with no recorded purpose jumps from 25.2% in 2019 to 76.9% in the year Covid hit before

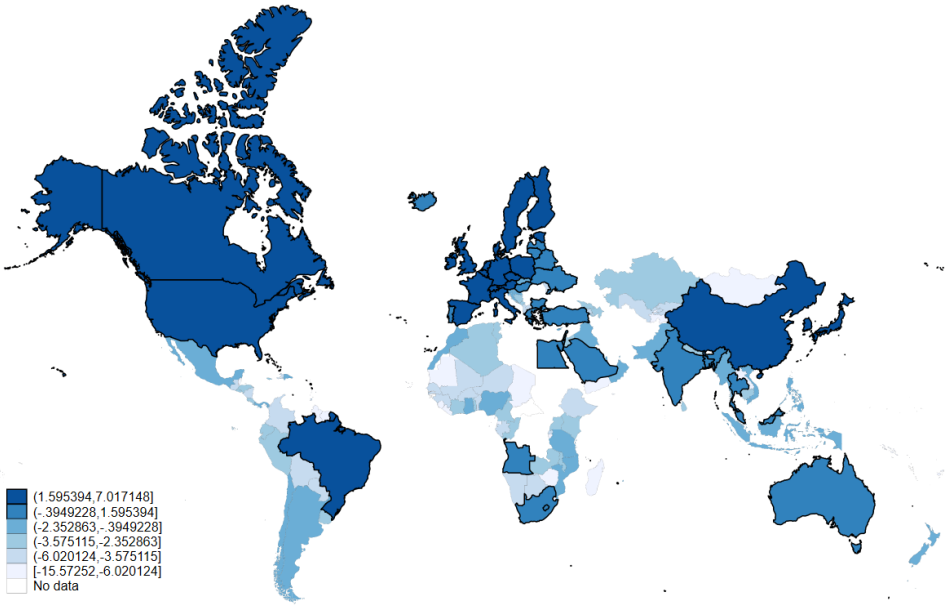
[6]Recall that this is only available for outbound transactions. Further, we do not include the missing and other categories when constructing these shares.

Figure 2: Transactions over Time



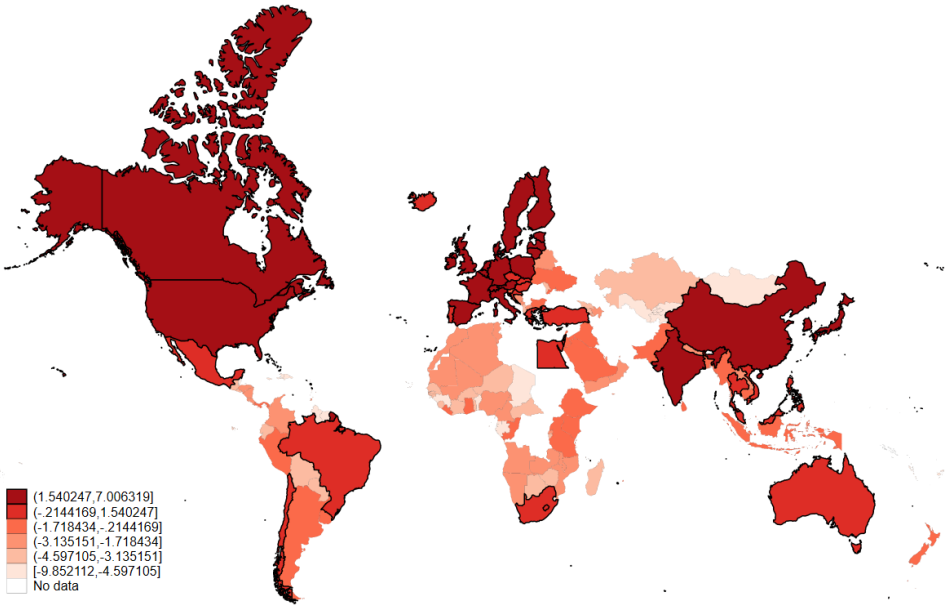
Note: Values in millions of transactions.

Figure 3: Inbound Transactions by Source, 2018



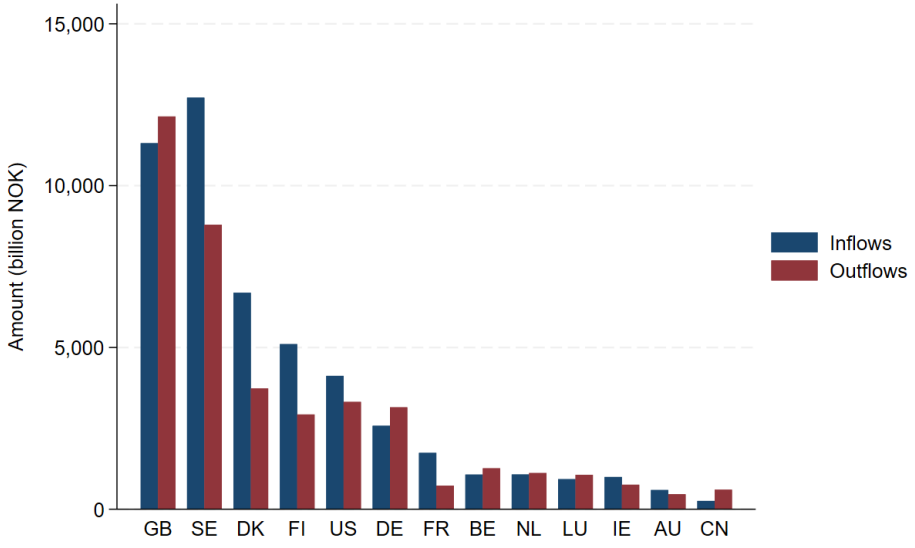
Note: Values in logged NOK.

Figure 4: Outbound Transactions by Destination, 2018



Note: Values in logged NOK.

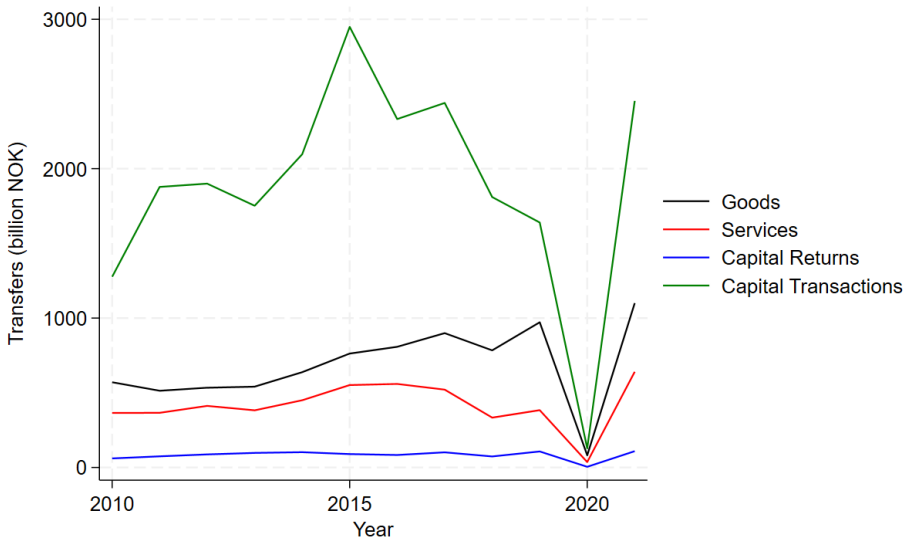
Figure 5: Top 12 Destinations and Sources, 2012-2021



Note: Values in logged NOK.

falling back to 26.3% in 2021. As a result, we will omit 2020 from our purpose regressions below. That said, the results are very similar when including 2020.

Figure 6: Share by Purpose, 2012-2021



Note: Values in logged NOK.

Finally, in Figures 7 and 8 we illustrate the share of transactions attributable to MNEs and domestic firms for inbound and outbound transactions.[7] Two items are worth recognizing. First, transactions are dominated by MNEs. Second, the drop in transactions found in Figure 1 seems to be driven by a drop in MNE transfers. This illustrates the value in our granular data which allows us to separate firms along such lines.

When working with the aggregate data or decomposing that by purpose or MNE status, we use a balanced panel.

2.2 Firm-level Information

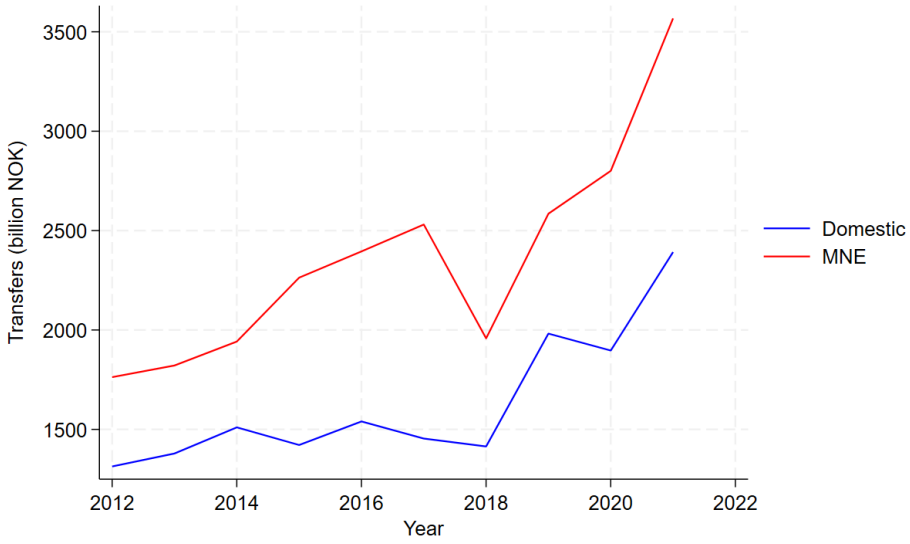
At the firm-level, we use sales revenue from the financial statements as a measure of turnover and a proxy for size in our firm-level regressions.[8] In addition, using matched employee-employer data, we use the number of employees.[9] Given that sales can include exports of goods and services, inbound transfers may suffer from endogeneity issues in these regressions. Nonetheless, our findings are broadly similar when this is omitted.

[7] As with Figure 6, the share is constructed using only firms where we could identify MNE status.

[8] For more information, see https://www.ssb.no/en/virksomheter-foretak-og-regnskap/regnskap/statistikk/regnskap-for-ikke-finansielle-aksjeselskaper

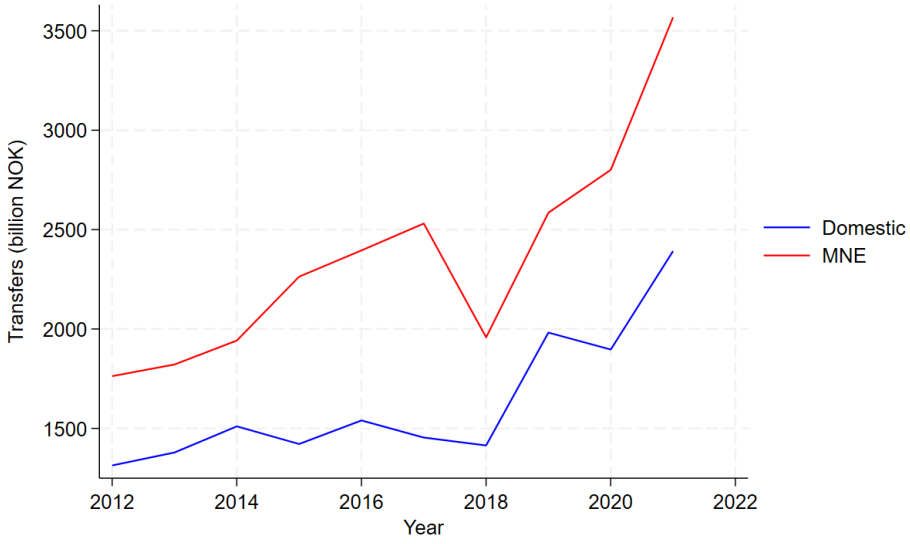
[9] In unreported results, we further split aggregate values by firm size (micro, small, medium, large) and by transaction type and firm size or MNE status. Since we control for firm size in the firm-level analysis and the cells were often zero when splitting by type and firm category, we do not present these results here.

Figure 7: Share by MNE Status, Inbound Transfers 2012-2021



Note: Values in logged NOK.

Figure 8: Share by MNE Status, Outbound Transfers 2012-2021



Note: Values in logged NOK.

Note that for a small number of firm-years, turnover can be negative or zero; likewise employment may be zero. We omit these observations from our firm-level analysis.

Finally, we are use the shareholder registry to determine whether a firm is majority owned by foreign individuals and/or is the majority owner of a foreign entity in a given year.[10] This then classifies a firm as an MNE or domestic in a given year. Again, and in light of Figure 6, we must acknowledge that the capital transactions involved in becoming an MNE can lead to large international transfers. We therefore recognize this feature of the data and discuss the patterns as exactly that – a pattern without attempting to claim the direction of causality. As a last point, in contrast to the aggregate results where the panel was balanced, this was impractical in the firm-level regressions and the panel is thus unbalanced.

2.3 Foreign Country Controls

For our foreign country control variables, we draw inspiration from the trade literature and rely on a number of "gravity" control variables. As discussed in depth by Yotov et al. (2016), these are intended to account for country size and trade barriers. For the first, we use GDP and GDP per capita.[11] For barriers – not only to trade but to the various activities driving international transactions – we control for contiguity, the population-weighted distance, an indicator for whether the other country is an EU member, and an indicator for whether the other country is in a free trade area (FTA) with Norway. These data were obtained from CEPII (Conte et al., 2022). As they end in 2021, they determine the end of our sample.

To these standard controls, we add three additional variables. First, as noted above, tax havens feature heavily in international transactions. Therefore, we include a dummy indicating whether the foreign country is a tax haven according to the list used by Tørsløv et al. (2023).[12] Second, given our interest in illicit financial flows, we use the Transparency Index (where a higher score indicates less corruption). This is obtained from Transparency International (2023).

Finally, we include an indicator for whether a given country c is grey-listed by the FATF (Financial Action Task Force, 2026). In Table 1 we list these countries and the years they were so identified. Note that this list includes those that were blacklisted as

[10] For more information, see https://www.ssb.no/data-til-forskning/utlan-av-data-til-forskere/variabellister/aksjonaerregisteret for inbound FDI. For outbound FDI, we draw from the Foreign Affiliate Statistics (FATS), a survey-based measure of major Norwegian MNEs carried out annually by Statistics Norway, and the outward Foreign Direct Investments (FDI) database. For details, see https://www.ssb.no/en/utenriksokonomi/fordringer-og-gjeld-overfor-utlandet/statistikk/norske-dotterselskap-i-utlandet and https://www.ssb.no/en/utenriksokonomi/fordringer-og-gjeld-overfor-utlandet/statistikk/direkteinvesteringer

[11] Since controls will be in logs, this is equivalent to controlling for GDP and population.

[12] Our list of havens includes Andorra, Anguilla, Antigua & Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belgium, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Cook Islands, Curacao, Cyprus, Dominica, Guernsey, Gibraltar, Grenada, Hong Kong, Ireland, Isle of Man, Jersey, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macao, Maldives, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Netherlands, Netherlands Antilles, Niue, Panama, Puerto Rico, Samoa, San Marino, Seychelles, St. Kitts and Nevis, St. Lucia, St. Martin, St. Vincent and the Grenadines, Singapore, Switzerland, Tonga, Turks and Caicos Islands, and Vanuatu.

well. We use this variable both on its own as well as interacted with whether country c is a tax haven. When disaggregating by MNE status (including at the firm-level) we also interact these with the MNE indicator.

2.4 Estimation Approach

For our estimation approach, we build from the textbook gravity approach (see Yotov et al. (2016) for an actual textbook laying out this methodology in detail). While gravity was developed to explain trade in goods and, more recently, foreign direct investment, we apply it here to bank transfers on the grounds that the same forces of economic mass and bilateral frictions plausibly govern cross-border payments; we acknowledge, however, that a portion of these flows – particularly capital returns such as interest and dividends – reflects financial rather than real activity, for which the structural gravity foundations are less firmly established. Our estimating equation is then:

$$Transfers_{ctdk} = f\left(\beta_1 Grey_{ctk} + \beta_2 Foreign_{ct} + \beta_3 Firm_{kt} + \gamma_{ctdk} + \varepsilon_{ctdk}\right) \tag{1}$$

i.e. transfers (value or number) as a function of grey-listing (including potential interaction terms), foreign country characteristics, and firm/purpose/status characteristics. We further include year fixed effects throughout which will capture any aggregate changes within Norway. In some specifications we include country and MNE status fixed effects as well. Finally, when working with the disaggregated data, in some specifications we use country-year (as opposed to country and year) fixed effects. As discussed in Yotov et al. (2016) this then accounts for the multilateral resistance terms which account for the fact that funds sent to one destination thus cannot be sent to another. Lastly, for the firm-level regressions, we also include firm fixed effects. Note that there the MNE variable will be identified by those firms that enter into (or less often exit from) MNE status.

Three last points deserve note. First, given the prevalence of zeros in our data and the highly-skewed distribution, we follow the recommendation of Santos Silva and Tenreyro (2006) and use the PPML estimator.[13] Note that with this estimator, while it mirrors the use of a logged dependent variable, it permits the inclusion of the zero values that appear in our non-firm-level regressions (where only positive *ctdk* observations are used). All non-binary control variables are logged. This gives the coefficients a (semi-)elasticity interpretation. Second, given that the variable of interest ($Grey$) is at the country-level, we cluster standard errors accordingly throughout. Finally, summary statistics for the sample in column 1 of Table 3 are found in Table 2.

3 Grey-listing and Transfers

We now turn to our regression analysis to examine the relationship between transfers and grey-listing and how that varies across categories. We do so with the above caveats

[13] Specifically, we use the *ppmlhdfe* estimator of Correia et al. (2020). Note that this estimator will drop observations where the combination of fixed effects explains all variation, thus the number of observations can vary across sample subsets.

Table 1: FATF grey-listing spells by country, 2010–2026

Country	Grey-listed	Country	Grey-listed
Afghanistan	2012–2017	Malta	2021–2022
Albania	2012–2015; 2020–2023	Monaco	2024–ongoing
Algeria	2011–2016; 2024–2026	Mongolia	2011–2014; 2019–2020
Angola	2010–2016; 2024–ongoing	Morocco	2021–2023
Antigua & Barbuda	2010–2013	Mozambique	2022–2025
Argentina	2011–2014	Myanmar	2010–2016; 2020–2022
Bangladesh	2010–2014	Nauru	2014–2017
Bolivia	2010–2013; 2025–ongoing	Nepal	2010–2014; 2025–ongoing
Bosnia & Herzegovina	2014–2018; 2026–ongoing	Nicaragua	2014–2015; 2020–2022
Botswana	2018–2021	Nigeria	2010–2013; 2023–2025
British Virgin Islands	2025–ongoing	North Korea	2010–2011
Bulgaria	2023–ongoing	Pakistan	2010–2015; 2018–2022
Burkina Faso	2021–2025	Panama	2014–2016; 2019–2023
Cambodia	2011–2015; 2019–2023	Papua New Guinea	2014–2016
Cameroon	2023–ongoing	Paraguay	2010–2012
Côte d'Ivoire	2024–ongoing	Philippines	2010–2013; 2021–2025
Croatia	2023–2025	São Tomé & Príncipe	2010–2013
Cuba	2015–2016	Senegal	2021–2024
Curaçao	2024–ongoing	Serbia	2018–2019
DR Congo	2024–ongoing	South Africa	2023–2025
Ecuador	2010–2015	South Sudan	2021–ongoing
Ethiopia	2010–2019	Sri Lanka	2010–2013; 2017–2019
Ghana	2010–2012; 2018–2021	Sudan	2010–2015
Gibraltar	2022–2024	Syria	2010–ongoing
Greece	2010–2011	Tajikistan	2011–2014
Guinea	2010–2014	Tanzania	2022–2025
Guinea-Bissau	2012–2013	Thailand	2010–2013
Guyana	2014–2016	Trinidad & Tobago	2010–2020
Haiti	2010–2014; 2021–ongoing	Tunisia	2017–2019
Honduras	2014–2016	Türkiye	2021–2024
Iceland	2019–2020	Turkmenistan	2010–2012
Indonesia	2010–2015	Uganda	2010–2013; 2014–2024
Iraq	2013–2018; 2026–ongoing	Ukraine	2010–2011
Jamaica	2020–2024	United Arab Emirates	2022–2024
Kenya	2010–2014; 2024–ongoing	Vanuatu	2016–2018
Kuwait	2012–2015	Venezuela	2010–2016; 2024–ongoing
Kyrgyzstan	2011–2014	Vietnam	2010–2014; 2023–ongoing
Laos	2011–2017; 2023–ongoing	Yemen	2010–ongoing
Lebanon	2023–ongoing	Zimbabwe	2011–2019
Mali	2021–2025		

Notes: Years are dated to the FATF plenary of listing; the delisting plenary year is treated as the final listed year. "Ongoing" indicates the country remained grey-listed as of the time of writing.

Table 2: Summary Statistics

	Mean	Std. Dev.	Min	Max	Obs.
Inbound value	2.84×10^{10}	1.40×10^{11}	172.56	1.83×10^{12}	1,489
Inbound transactions	27,274	135,344.4	1	1,565,133	1,489
Outbound value	2.36×10^{10}	1.17×10^{11}	2,308.04	1.52×10^{12}	1,525
Outbound transactions	36,338.48	155,136	1	1,905,850	1,525
Grey-listed	0.132	0.338	0	1	1,489
GDP	17.868	2.099	12.929	23.859	1,489
GDP per capita	1.762	1.439	−1.496	4.910	1,489
Distance	8.442	0.799	5.905	9.764	1,489
Contiguity	0.020	0.141	0	1	1,489
EU	0.179	0.384	0	1	1,489
FTA	0.359	0.480	0	1	1,489
Haven	0.109	0.312	0	1	1,489
Transparency	44.690	18.543	14	92	1,489

Notes: Value variables are in NOK. GDP, GDP per capita, and distance are in logs. Grey-listed, contiguity, EU, FTA, and Haven are indicator variables. The sample corresponds to column 1 of Table 3.

regarding potential endogeneity.

3.1 Aggregates

We begin in Table 3 where the unit of observation is country-year for inbound (columns 1-4) or outbound (5-8) transactions. All columns use year fixed effects; 2-4 and 6-8 also include country fixed effects prohibiting the estimation of the non-time varying control coefficients. Columns 3, 4, 7, and 8 include the grey-listing interacted with the haven indicator. Finally, columns 4 and 8 report the number of transactions as opposed to their value.

Beginning with our country-level controls, we find that, as anticipated, more comes from and goes to large countries, although this seems to be primarily a betweenness comparison rather than a within one. Likewise, greater transfers take place between Norway and proximate countries. GDP per capita, contiguity (which only applies to Sweden in our data), EU membership, and trade agreements appear to have little relation to the value of transfers. That said, there are fewer transactions coming from wealthier countries (column 4). Haven status appears largely unrelated to the value of transfers. Finally, there are higher values between Norway and transparent countries, although the number of transactions is unrelated. This suggests that the average size of a transaction is decreasing with the level of corruption.

In terms of grey-listing, the only significant coefficient is for the interaction between listing and haven status for inbound transactions. This indicates that both the value and number of inbound transactions are lower when a tax haven is listed. The estimated coefficient suggests that this is a sizable difference with an estimated decline on the order

of two-thirds.

Table 3: Effect of FATF Grey-listing on Aggregates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Inbound				Outbound			
Dependent:	Value	Value	Value	Trans.	Value	Value	Value	Trans.
Grey-listed	0.586	0.274	0.312	0.0874	0.635	0.0972	0.156*	0.0543
	(0.657)	(0.224)	(0.233)	(0.220)	(0.441)	(0.0978)	(0.0901)	(0.0798)
Grey × Haven			−1.086**	−0.935**			−0.717	−0.205
			(0.513)	(0.390)			(0.610)	(0.182)
GDP	0.711***	1.837	1.848	10.64**	0.793***	6.284	6.309	−1.358
	(0.173)	(5.616)	(5.622)	(4.439)	(0.187)	(5.791)	(5.791)	(1.349)
GDP per capita	0.819	−0.687	−0.699	−7.182***	0.316	−5.821	−5.843	2.004
	(0.505)	(5.343)	(5.349)	(2.787)	(0.564)	(5.517)	(5.517)	(1.275)
Distance	−1.173***				−1.070***			
	(0.187)				(0.211)			
Contiguity	0.214				0.210			
	(0.196)				(0.265)			
EU	0.400				0.270			
	(0.486)				(0.441)			
FTA	−0.839	−0.299	−0.186	−0.479	−0.319	−0.264	−0.244	−0.138*
	(0.883)	(0.600)	(0.473)	(0.449)	(0.838)	(0.255)	(0.257)	(0.0739)
Haven	−0.652*				−0.213			
	(0.346)				(0.392)			
Transparency	0.0511***	0.0415***	0.0416***	−0.00319	0.0505**	0.0393***	0.0394***	−0.00694
	(0.0160)	(0.0150)	(0.0150)	(0.0191)	(0.0199)	(0.00967)	(0.00969)	(0.00899)
Constant	12.87***	−11.83	−12.13	−173.5**	11.88***	−85.37	−85.83	33.77
	(3.845)	(96.19)	(96.32)	(78.81)	(3.913)	(100.2)	(100.2)	(23.35)
Observations	1,489	1,529	1,487	1,487	1,525	1,529	1,524	1,524
Fixed effects								
Year	Y	Y	Y	Y	Y	Y	Y	Y
Country		Y	Y	Y		Y	Y	Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

3.2 By Purpose and MNE Status

In Table 4 we break these aggregates down into the values across our four purpose categories. Recall that this is only possible for outbound transactions. Again, all columns include year fixed effects whereas the latter half also includes country fixed effects.

In terms of the controls, we find broadly similar patterns across purposes which match those from the aggregate estimates. One difference across purposes worth noting is that services seem less deterred by distance than, say, goods are. Given their intangible nature, this appears reasonable. In terms of grey-listing, we primarily find significant coefficients when including the country fixed effects. There, we see a negative coefficient for capital returns for all listed countries, with slightly more negative point coefficients

for havens. We also find that grey-listing a haven implies a significantly lower amount of outbound values. No significant pattern is found for services or capital transfers. Given the predominance of the latter in the aggregates, this may help to explain the insignificance in the outbound results of Table 3 as compared to here. This then suggests that there is something to be gained from using the type of granular data we employ as compared to that used in the rest of the literature.

Table 4: Effect of FATF Grey-listing by Transaction Purpose

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Capital	Capital			Capital	Capital
Purpose:	Goods	Services	Returns	Transfer	Goods	Services	Returns	Transfer
Grey-listed	−0.267	0.937*	−0.0870	1.472	0.0575	0.119	−0.920**	0.473
	(0.295)	(0.533)	(0.706)	(0.935)	(0.0830)	(0.172)	(0.390)	(0.353)
Grey × Haven	0.283	0.851	1.293	−0.265	−1.224**	−0.420	−0.822*	−0.260
	(0.444)	(1.251)	(0.826)	(1.425)	(0.571)	(0.564)	(0.492)	(0.789)
GDP	0.691***	0.749***	0.763***	0.925***	−0.648	13.13*	12.25***	7.274
	(0.0764)	(0.210)	(0.136)	(0.229)	(2.397)	(7.697)	(4.377)	(6.816)
GDP per capita	−0.0360	0.0546	1.234	0.669	0.746	−11.34	−11.79***	−7.906
	(0.182)	(0.595)	(0.848)	(0.833)	(2.258)	(7.397)	(4.534)	(6.680)
Distance	−1.114***	−0.602*	−1.024***	−0.969***				
	(0.182)	(0.314)	(0.292)	(0.313)				
Contiguity	0.489***	−0.207	−0.564***	0.271				
	(0.170)	(0.461)	(0.149)	(0.287)				
EU	0.0294	0.524	0.725	0.973				
	(0.230)	(0.495)	(0.599)	(0.641)				
FTA	−0.0809	0.332	−0.592	−0.623	−0.372***	−0.598	1.323*	0.377
	(0.404)	(0.783)	(0.769)	(1.268)	(0.119)	(0.391)	(0.789)	(0.541)
Haven	−0.145	0.000700	−0.340	−0.277				
	(0.162)	(0.372)	(0.233)	(0.621)				
Transparency	0.0420***	0.0553**	0.0540**	0.0628**	−0.00340	0.0185	0.00998	0.0640***
	(0.00974)	(0.0225)	(0.0210)	(0.0290)	(0.0106)	(0.0122)	(0.0427)	(0.0141)
Constant	14.70***	7.369	4.728	5.213	35.89	−208.8	−189.7**	−101.5
	(1.976)	(4.687)	(4.332)	(5.687)	(41.50)	(133.6)	(73.84)	(117.7)
Observations	1,357	1,337	658	1,077	1,356	1,334	638	1,066
Fixed effects								
Year	Y	Y	Y	Y	Y	Y	Y	Y
Country					Y	Y	Y	Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Comparable to Table 4, in Table 5 and 6 we decompose our data into those transactions by domestic or MNE firms. In columns 1 and 3 we only include transactions to/from domestic firms, 2 and 4 use only MNE transactions, and 5 and 6 use both. The fixed effects constellation is reported at the bottom. Note in particular that the final columns use country-year fixed effects and thus absorb the multilateral resistance terms.

In terms of the controls, we find broadly similar patterns for domestic and MNEs under which more money comes from (Table 5) and goes to (Table 6) large, proximate, transparent countries. Of note is that MNEs appear to receive less from tax havens (Table

5, column 2), a finding that would be expected for a high-tax country like Norway. There is not, however, any evidence that they send more to havens.

For inbound transfers, grey-listing is significant in column 4's sample of MNEs. There, the prediction is perhaps a slight rise in transfers from non-haven listed countries but a significant drop in transfers from listed havens. There, the combined estimate suggests a drop in inflows of 76.5% when a haven is listed. In column 5, we recombine our subsamples. There the estimates mirror the MNE-only results with perhaps a slightly larger drop for MNEs as compared to domestic firms. Finally, in column 6 we use country-year fixed effects. There, we can only estimate the predicted difference between domestic firms and MNEs. As in column 5, this suggests a slightly significant difference with MNE inbound transfers 43% lower.

Turning to the outbound results of Table 6, we find no significant relationship between grey-listing and transaction values when splitting our sample. However, when combining them in column 5 we find that grey-listing is associated with an increase in transfers by domestic firms and a sizable decline in transfers by MNEs. This difference remains highly significant in column 6 with the country-year fixed effects where the estimated difference is on the order of 67%. For outbound transactions, however, there is no significant difference between haven and non-haven listed countries.

Combining the above, we find that there is no significant coefficient for capital transfers but there are for imports and outbound capital returns. In addition, we find that the negative results are primarily found for MNEs. This suggests that MNEs may respond to grey-listing not by changing their investment patterns (capital transfers) but by lowering imports and outbound payments for intra-firm debt, particularly to tax havens. Therefore, although grey-listing is not intended to curb profit shifting, the increased scrutiny it brings may well have that effect.

3.3 Firm-level Estimates

Next, we disaggregate to the finest degree possible and operate at the firm-country-year-direction level. Here, in addition to the country controls, we control for firm size as measured by (logged) turnover and employment. Further, we include whether the firm is an MNE in a given year. Note that as we include firm-level fixed effects, the coefficient on this last is determined solely by those firms which switch MNE status.[14] In this section, given the large number of missing values for purpose at this level, we do not consider differences in that dimension. Finally, we remind the reader that here the sample is unbalanced and only includes observations where there is a positive value for a country-year-direction triad.

Our estimates are found in Table 7 where the first three columns present the inbound results and the last three do so for outbound transaction values. Note that columns 1, 2, 4, and 5 use year and country fixed effects whereas 3 and 6 use country-year. All specifications include firm fixed effects. For the three firm-level controls added, we find that firms with higher sales have larger transactions. For the inbound transactions,

[14]Note that in the above section, when decomposing by status a firm contributes to the domestic/MNE aggregates according to its status in a given year.

Table 5: Effect of FATF Grey-listing by MNE Status – Inbound

	(1)	(2)	(3)	(4)	(5)	(6)
Firms:	Domestic	MNEs	Domestic	MNEs	All	All
Grey-listed	0.426	0.455	−0.0124	0.412**	0.473***	
	(0.435)	(0.570)	(0.256)	(0.208)	(0.163)	
Grey × Haven	−0.0937	−0.346	−0.270	−1.860**	−0.952***	
	(0.730)	(0.697)	(0.382)	(0.906)	(0.353)	
Grey × MNE					−0.545*	−0.546*
					(0.295)	(0.296)
Grey × Haven × MNE					−0.507	−0.505
					(0.640)	(0.640)
MNE					0.425***	0.425***
					(0.0771)	(0.0771)
GDP	0.692***	0.735***	−6.674**	0.854	−2.505	
	(0.126)	(0.112)	(3.354)	(3.164)	(2.180)	
GDP per capita	0.451	0.472	6.901**	−0.0983	2.975	
	(0.309)	(0.317)	(3.291)	(2.656)	(2.089)	
Distance	−1.023***	−1.414***				
	(0.250)	(0.199)				
Contiguity	0.424	−0.0677				
	(0.284)	(0.178)				
EU	0.105	0.115				
	(0.403)	(0.415)				
FTA	−0.756	−0.901	0.457**	−1.393**	−0.347	
	(0.665)	(0.680)	(0.232)	(0.627)	(0.447)	
Haven	−0.373	−0.495*				
	(0.324)	(0.257)				
Transparency	0.0481***	0.0517***	0.0106	0.0183	0.0152	
	(0.0136)	(0.0129)	(0.0129)	(0.0201)	(0.0141)	
Constant	12.37***	14.51***	136.4**	7.913	64.79*	25.05***
	(3.131)	(2.586)	(57.54)	(55.87)	(37.46)	(0.0465)
Observations	1,451	1,281	1,449	1,275	2,732	2,574
Fixed effects						
Year	Y	Y	Y	Y	Y	
Country			Y	Y	Y	
Country-Year						Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6: Effect of FATF Grey-listing by MNE Status – Outbound

	(1)	(2)	(3)	(4)	(5)	(6)
Firms:	Domestic	MNEs	Domestic	MNEs	All	All
Grey-listed	0.110	0.0771	0.00149	0.113	0.581***	
	(0.320)	(0.317)	(0.139)	(0.153)	(0.128)	
Grey × Haven	0.889	0.659	0.140	−0.493	−0.130	
	(0.725)	(0.813)	(0.184)	(0.502)	(0.295)	
Grey × MNE					−1.105***	−1.109***
					(0.251)	(0.250)
Grey × Haven × MNE					−0.143	−0.138
					(0.240)	(0.240)
GDP	0.711***	0.810***	−5.036**	0.838	−2.003	
	(0.0912)	(0.115)	(2.243)	(3.894)	(2.515)	
GDP per capita	0.0591	0.206	4.711**	0.103	2.299	
	(0.229)	(0.385)	(2.176)	(3.722)	(2.466)	
Distance	−1.082***	−1.226***				
	(0.218)	(0.195)				
Contiguity	0.562**	0.318*				
	(0.245)	(0.184)				
EU	0.0766	−0.0843				
	(0.324)	(0.414)				
FTA	−0.497	−0.0244	−0.0625	−0.406	−0.206*	
	(0.488)	(0.630)	(0.108)	(0.283)	(0.106)	
Haven	0.0357	−0.118				
	(0.251)	(0.274)				
Transparency	0.0414***	0.0484***	−0.00860	0.0207*	0.00857	
	(0.0111)	(0.0153)	(0.00828)	(0.0123)	(0.00681)	
MNE					0.313***	0.313***
					(0.0863)	(0.0862)
Constant	14.04***	11.97***	112.1***	6.107	57.19	24.83***
	(2.364)	(2.376)	(38.82)	(67.21)	(43.14)	(0.0497)
Observations	1,488	1,406	1,486	1,405	2,894	2,908
Fixed effects						
Year	Y	Y	Y	Y	Y	
Country			Y	Y	Y	
Country-Year						Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

where sales would include exports, this may well be mechanical. For outbound transfers, however, this is not true. Employment, however, has no significant correlation. Finally, being an MNE tends to mean higher outbound transfers but no difference in inbound.

Turning to the listing variables, we see that inbound transfers are lower for listed havens in column 1. Column 2 allows that difference to vary with MNE status.[15] Doing so suggests that MNEs experience bigger percentage declines when a country is listed. Further, this is especially pronounced when the listed country is a haven. When controlling for the country-year fixed effects in column 3, we again find that MNEs see a decline relative to non-MNEs, although this does not appear to differ between haven and non-haven listed countries.

Moving to the outbound estimates, we only find significant differences for MNEs where again we find that transfers drop when a country is listed. While this may be somewhat tempered for havens, that coefficient is only marginally significant. We do not, however, find any difference when including the country-year fixed effects.

Thus, using the firm-level data, we find significant variation across haven countries and the firm's MNE status. This again suggests that there is important heterogeneity underlying the aggregate results.

4 The Anti-Money Laundering Act and Transfers

While the grey-listing was a cross-country recognition of some nations being potentially problematic, some countries, Norway included, have taken unilateral steps to combat money laundering. In Norway, this took the form of the 2018 Anti-Money Laundering Act (Hvitvaskingsloven, 2018). In this section, we examine the interplay of this additional set of requirements with grey-listing. Note that the year fixed effects will capture the AML regulation's independent effect, thus our estimates are intended to identify the differential patterns in grey-listing and transactions pre- and post-AML.

We begin with Table 8 which presents results analogous to Table 3 when we include both country and year fixed effects. As can be seen, for inbound transactions (columns 1 and 2) the estimates find that less comes from a listed haven. This mirrors Table 3. Under Norway's AML, however, this estimated difference is only half as large. In terms of the number of inbound transactions, while there is an estimated increase for listed non-havens prior to 2018, the estimate falls into marginally negative territory after 2018. This then suggests that the insignificant result for the number of non-haven transactions in Table 3 was masking this variation. For havens, however, the estimated number of transactions is firmly lower after the AML.

Looking to the outbound results in columns 3 and 4, only one result is significant, namely that outbound values and transaction counts are significantly lower after Norway's AML.

To not overburden the reader, for our final set of estimates, we replicate the firm-level results but again examine how the correlation between bank transactions and grey-listing

[15] Please note that as listing varies by time, this is identified by changes in MNE status and/or changes in listing status. In contrast, with firm fixed effects, the MNE coefficient itself is only identified by firms that change status.

Table 7: Effect of FATF Grey-listing, Firm-Level

	(1)	(2)	(3)	(4)	(5)	(6)
	Inbound			Outbound		
Grey-listed	0.0978	0.457**		−0.176	0.171	
	(0.237)	(0.221)		(0.218)	(0.242)	
Grey × Haven	−1.353**	−0.842*		0.106	−0.244	
	(0.540)	(0.484)		(0.301)	(0.381)	
Grey × MNE		−0.588***	−0.656***		−0.744**	−0.604
		(0.153)	(0.142)		(0.362)	(0.439)
Grey × Haven × MNE		−1.056***	−0.704		0.738*	0.495
		(0.318)	(0.486)		(0.428)	(0.529)
MNE	0.0784	0.0812	0.0830	0.241**	0.243**	0.245**
	(0.125)	(0.125)	(0.128)	(0.106)	(0.106)	(0.106)
Employment	0.0759	0.0760	0.0775	0.0781	0.0780	0.0775
	(0.0705)	(0.0705)	(0.0694)	(0.0644)	(0.0644)	(0.0643)
Sales	0.266***	0.266***	0.263***	0.295***	0.295***	0.294***
	(0.0423)	(0.0423)	(0.0420)	(0.0409)	(0.0410)	(0.0417)
GDP	−4.116**	−4.118**		−1.619	−1.627	
	(1.698)	(1.699)		(2.204)	(2.194)	
GDP per capita	4.012**	4.017**		1.574	1.586	
	(1.691)	(1.690)		(2.224)	(2.211)	
FTA	−0.609	−0.590		0.403**	0.437***	
	(0.732)	(0.725)		(0.164)	(0.163)	
Transparency	0.00468	0.00463		0.00223	0.00218	
	(0.0133)	(0.0133)		(0.00751)	(0.00749)	
Constant	84.50***	84.52***	14.29***	39.64	39.75	12.64***
	(29.02)	(29.03)	(0.849)	(37.38)	(37.23)	(0.936)
Observations	981,313	981,313	982,459	1,784,779	1,784,779	1,786,399
Fixed effects						
Year	Y	Y		Y	Y	
Country	Y	Y		Y	Y	
Country × Year			Y			Y
Firm	Y	Y	Y	Y	Y	Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: AML and Grey-listing – Aggregate

	(1)	(2)	(3)	(4)
	Inbound		Outbound	
Dependent:	Value	Trans.	Value	Trans.
Grey-listed	0.118	0.731**	0.189	0.0699
	(0.460)	(0.347)	(0.243)	(0.110)
Grey × Haven	−2.287***	−0.771**	0.358	0.0674
	(0.469)	(0.370)	(0.264)	(0.131)
Post × Grey	0.372	−0.890**	−0.126	−0.0480
	(0.655)	(0.406)	(0.408)	(0.150)
Post × Grey × Haven	1.269**	−0.0203	−1.574***	−0.381***
	(0.496)	(0.344)	(0.402)	(0.145)
Post × Haven	0.440	0.391	0.363	0.0837
	(0.348)	(0.290)	(0.288)	(0.109)
GDP	0.290	9.284**	5.051	−1.467
	(4.727)	(4.050)	(4.797)	(1.285)
GDP per capita	0.455	−6.356**	−4.914	2.071*
	(4.576)	(2.532)	(4.681)	(1.251)
FTA	−0.235	−0.282	−0.0870	−0.113*
	(0.514)	(0.328)	(0.131)	(0.0601)
Transparency	0.0378***	−0.00612	0.0366***	−0.00715
	(0.0130)	(0.0178)	(0.00886)	(0.00877)
Constant	16.10	−149.4**	−63.03	35.76
	(80.75)	(71.92)	(82.72)	(22.12)
Observations	1,487	1,487	1,524	1,524
Fixed effects				
Year	Y	Y	Y	Y
Country	Y	Y	Y	Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

varied before and after Norway implemented its AML.[16] These estimates are found in Table 9 with inbound results in the first three columns and the outbound results in the last three.

Similar to Table 8, we find that listing is related to lower transfers, especially when the foreign country is a tax haven and when the transaction is undertaken by an MNE. In addition, we tend to see that post-2018, the estimated drop in inbound flows from havens is reduced by half.

Putting these together, we see a somewhat complicated picture. For inbound flows, post-2018 the difference between haven and non-haven listed countries falls with that change most profound among MNEs. For outbound flows, flows to havens decline more with listing after 2018 with no difference found between MNEs and domestic firms. Since outbound flows are where we would expect profit shifting from high-tax Norway, this may reflect an improved ability to limit illicit activity while not impeding the ability of MNEs to repatriate profits.

5 Conclusion

In efforts to combat illicit financial flows, several types of approaches have been used. In particular, the grey-listing of potentially problematic countries by the Financial Action Task Force has been used to "name and shame" countries into tightening their regulations around reporting to identify and thus curb such flows. That said, the literature has found at best limited results.

We suggest that one reason may be that the existing work relies on aggregated data. If the majority of flows are perfectly reasonable, then any impacts may be masked in the aggregate. To that end, we use a unique transaction-level database on international bank transfers in and out of Norway for 2012-2021. Crucially, this allows us not only to distinguish between transfers involving tax havens but also the purpose of the transaction and whether or not the Norwegian entity is a multinational. This suggests three things. First, that the amount of activity is significantly lower when a country is listed, but that this is mostly found among tax havens. Second, that not all transactions are equally associated with listing; instead it is mostly payments for imports and capital return payments (primarily interest and dividends) that are lower after a haven is listed. Since these are a minority part of transactions, their patterns may be swamped in the aggregate. Third, transactions involving multinationals are associated with larger declines than those of domestic firms. While MNEs make up the majority of flows, again, they are but a part of the aggregate.

This then suggests two things. First, that using aggregate data may be insufficient to identify the potential consequences of grey-listing. In fact, grey-listing may indeed influence flows and thus policy, particularly where the ability to engage with MNEs is an important part of the economy. Second, beyond potential effects on illicit financial flows, grey-listing may curb profit-shifting by MNEs via transfer pricing and internal debt.

Furthermore, we find that these differences are clearest after Norway tightened its own anti-money laundering laws in 2018. Therefore, in order to most effectively combat

[16] These additional results are available on request.

Table 9: AML and Grey-listing – Firm-level

	(1)	(2)	(3)	(4)	(5)	(6)
	Inbound			Outbound		
Grey-listed	−0.0551	0.272		−0.177	0.0602	
	(0.460)	(0.435)		(0.218)	(0.421)	
Grey × Haven	−2.548***	−1.414***		−0.00426	0.0407	
	(0.488)	(0.493)		(0.282)	(0.478)	
Grey × MNE		−0.508***	−0.600***		−0.816**	−0.201
		(0.153)	(0.158)		(0.360)	(0.257)
Grey × Haven × MNE		−2.471***	−3.016***		0.388	−0.298
		(0.320)	(0.305)		(0.347)	(0.233)
Post × Grey	0.354	0.440			0.232	
	(0.514)	(0.523)			(0.656)	
Post × Grey × Haven	1.775***	0.666		0.145	−0.466	
	(0.533)	(0.549)		(0.250)	(0.709)	
Post × Grey × MNE		−0.221	−0.162		0.118	−0.725
		(0.324)	(0.327)		(0.737)	(0.670)
Post × Grey × Haven × MNE		2.270***	2.847***		0.541	1.309*
		(0.444)	(0.463)		(0.812)	(0.758)
Post × Haven	−0.00919	−0.00918		0.0116	0.0133	
	(0.147)	(0.147)		(0.105)	(0.105)	
Post × MNE	−0.0361	−0.0362	−0.0442	0.0188	0.0187	0.0192
	(0.126)	(0.126)	(0.122)	(0.0899)	(0.0900)	(0.0883)
MNE	0.0929	0.0954	0.101	0.234***	0.236***	0.238***
	(0.0968)	(0.0970)	(0.101)	(0.0837)	(0.0834)	(0.0835)
Employment	0.0760	0.0762	0.0775	0.0780	0.0781	0.0776
	(0.0709)	(0.0708)	(0.0696)	(0.0644)	(0.0645)	(0.0642)
Sales	0.266***	0.266***	0.262***	0.295***	0.295***	0.294***
	(0.0422)	(0.0422)	(0.0419)	(0.0417)	(0.0417)	(0.0424)
GDP	−4.242**	−4.237**		−1.649	−1.734	
	(1.900)	(1.905)		(2.180)	(2.211)	
GDP per capita	4.157**	4.152**		1.592	1.678	
	(1.857)	(1.862)		(2.211)	(2.236)	
FTA	−0.725	−0.703		0.410**	0.393**	
	(0.784)	(0.769)		(0.173)	(0.176)	
Transparency	0.00453	0.00450		0.00216	0.00197	
	(0.0140)	(0.0140)		(0.00745)	(0.00745)	
Constant	86.70***	86.58***	14.31***	40.20	41.67	12.64***
	(32.82)	(32.92)	(0.838)	(36.92)	(37.52)	(0.951)
Observations	981,313	981,313	982,459	1,784,779	1,784,779	1,786,399
Fixed effects						
Year	Y	Y		Y	Y	
Country	Y	Y		Y	Y	
Country × Year			Y			Y
Firm	Y	Y	Y	Y	Y	Y

Notes: Robust standard errors in parentheses. Errors are clustered by country. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

undesirable international financial activity, it may be important to combine local action with multilateral efforts.

References

Alstadsæter, A., Johannesen, N., Zucman, G., 2018. Who owns the wealth in tax havens? macro evidence and implications for global inequality. Journal of Public Economics 162, 89–100. doi:10.1016/j.jpubeco.2018.01.008.

Balakina, O., D'Andrea, A., Masciandaro, D., 2016. Bank Secrecy in Offshore Centres and Capital Flows: Does Blacklisting Matter? Working Paper 2016-20. Centre for Applied Research on International Markets, Banking, Finance and Regulation (BAFFI CAREFIN).

Bank for International Settlements, 2026. BIS International Banking Statistics and Global Liquidity Indicators at End-December 2025. Statistical Release. Bank for International Settlements. URL: https://www.bis.org/statistics/rppb2604.htm. outstanding stock of global cross-border bank claims of $46 trillion at end-2025 (locational banking statistics). Accessed 2026-07-27.

Collin, M., Cook, S., Soramäki, K., Wadhwa, D., 2019. The Impact of International Anti-Money Laundering Blacklists on Cross-Border Payments: Evidence from SWIFT Data. Technical Report. Center for Global Development. Working paper.

Conte, M., Cotterlaz, P., Mayer, T., 2022. The CEPII Gravity Database. Working Paper 2022-05. CEPII. URL: https://www.cepii.fr/ANGLAISGRAPH/bdd/gravity.htm.

Correia, S., Guimarães, P., Zylkin, T., 2020. Fast poisson estimation with high-dimensional fixed effects. The Stata Journal 20, 95–115. doi:10.1177/1536867X20909691.

Farias, M.E., de Almeida, M.A., 2014. Does saying "yes" to capital inflows necessarily mean good business? the effect of antimoney laundering regulations in the latin american and the caribbean economies. Economics & Politics 26, 96–127.

Financial Action Task Force, 2026. Jurisdictions under increased monitoring. FATF, Paris. URL: https://www.fatf-gafi.org/en/publications/high-risk-and-other-monitored-jurisdictions.html. compiled from FATF ICRG plenary statements. Accessed 2026.

Heiene, T., Scheuerer, J., Sommervoll, D.E., 2025. International Bank Transfers: Variable Definitions, Data Issues and Recommended Data Cleaning. Working Paper. School of Economics and Business, Norwegian University of Life Sciences (NMBU).

Hvitvaskingsloven, 2018. Lov om tiltak mot hvitvasking og terrorfinansiering (lov-2026-02-06-2). Norwegian statute. URL: https://lovdata.no/dokument/NL/lov/2018-06-01-23. lOV-2026-02-06-2).

Johannesen, N., Zucman, G., 2014. The end of bank secrecy? an evaluation of the G20 tax haven crackdown. American Economic Journal: Economic Policy 6, 65–91. doi:10.1257/pol.6.1.65.

Kida, M., Paetzold, S., 2021. The Impact of Gray-Listing on Capital Flows: An Analysis Using Machine Learning. IMF Working Paper WP/21/153. International Monetary Fund. URL: https://www.imf.org/en/Publications/WP/Issues/2021/05/27/The-Impact-of-Gray-Listing-on-Capital-Flows-An-Analysis-Using-Machine-Learning-500

Kudrle, R.T., 2009. Did blacklisting hurt the tax havens? Journal of Money Laundering Control 12, 33–49. doi:10.1108/13685200910922642.

Lagarda, G., Verastegui, P., 2026. Do Warnings Change Behavior? Money-Laundering, Grey-Listing by the FATF, and Cross-Border Financial Flows. IDB Working Paper IDB-WP-01823. Inter-American Development Bank. URL: https://publications.iadb.org/publications/english/document/Do-Warnings-Change-Behavior-Money-laundering-Grey-listing-by-the-FATF-and-Cross-bo pdf.

McKinsey & Company, 2024. The 2024 McKinsey Global Payments Report. Technical Report. McKinsey & Company. URL: https://www.mckinsey.com/industries/financial-services/our-insights/the-2024-mckinsey-global-payments-report. global cross-border payment flows estimated at roughly $150 trillion annually, projected to exceed $250 trillion by 2027. Industry estimate. Accessed 2026-07-27.

Morse, J.C., 2019. Blacklists, market enforcement, and the global regime to combat terrorist financing. International Organization 73, 511–545.

Santos Silva, J.M.C., Tenreyro, S., 2006. The log of gravity. The Review of Economics and Statistics 88, 641–658. doi:10.1162/rest.88.4.641.

Tørsløv, T., Wier, L., Zucman, G., 2023. The missing profits of nations. The Review of Economic Studies 90, 1499–1534. doi:10.1093/restud/rdac049.

Transparency International, 2023. Corruption perceptions index. https://www.transparency.org/en/cpi. Berlin: Transparency International.

Valutaregisterloven, 2004. Lov om register over opplysninger om valutaveksling og overføring av betalingsmidler inn og ut av norge (lov-2004-05-28-29). Norwegian statute. LOV-2004-05-28-29.

Yotov, Y.V., Piermartini, R., Monteiro, J.A., Larch, M., 2016. An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model. World Trade Organization and United Nations Conference on Trade and Development, Geneva. URL: https://www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf.

Zucman, G., 2013. The missing wealth of nations: Are Europe and the U.S. net debtors or net creditors? The Quarterly Journal of Economics 128, 1321–1364. doi:10.1093/qje/qjt012.