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Article

Dimensions and Cartography of Dirty Money in Developing Countries: Tripping Up on the Global Hydra

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Abstract
This article aims to analyze the challenges posed by the illicit financial flows (IFFs) that emerged from the consolidation and globalization of financial markets and the persistent and rising inequality of wealth and income. In a first step, we show the key dimensions behind IFFs (governance, trade, finance, taxation, monetary), which affect the multilateral order and promote new relations of dependence between the Global North and the Global South. In a second step, we analyze the cartographic representation of the developing world regarding the challenges posed by IFFs. We argue that IFFs are a subproduct of inefficient international policies and multilateral regulatory frameworks that have decreased the scope of action of nation-states and reduced the incentives for them to cooperate in certain areas of financial markets and global governance, such as international cooperation on tax and IFFs. In the article, we examine the multidimensionality of IFFs through multivariate techniques. More specifically, we use factor and cluster analysis methods based on the most recent information available between 2015 and 2020. Factor analysis reveals four main components behind this global problem: governance issues, foreign direct investment and trade-related issues, bank stability, and taxation. A clustering hierarchical solution provides four clusters of developing countries, in terms of phantom investment and trade misinvoicing, revealing the heterogeneous composition and shortcomings of the Global South. These results help understand the complexities behind IFFs and highlight the relevance of tailored actions to promote a more effective global governance system.

Keywords
developing countries; financial globalization; global governance; illicit financial flows

Issue
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1. Introduction

Global challenges such as illicit financial flows (IFFs) are part of a multipolar and interdependent world. These flows disproportionally affect developing countries, which have not only faced the consequences of economic downturn over the last years but also the harmful effects on poverty resulting from the Covid-19 pandemic. The failure to curb IFFs is only one piece of evidence of the current crisis of multilateralism that became more marked after the 2007–2009 international financial crisis, as well as with the outbreak of the coronavirus. These problems suggest a need to break the gridlock in global governance that results from the increasing complexity of international relations and global power shifts (Boughton et al., 2017; Boulet et al., 2016; Hale et al., 2013).

IFFs have become a cause of serious concern for developed and developing countries alike. They can be linked to transnational organized crime and other forms

of corruption (e.g., failure of money laundering controls, global bribery, and fraud). They are also directly related to tax avoidance and tax planning by multinational corporations (MNCs) and their transfer of funds to offshore destinations (i.e., profits shifted to tax havens; Alonso, 2018; Cobham & Jansky, 2020; Reuter, 2012).

IFFs not only deprive developing countries of domestic resources for development but also pose a continuing challenge for sustained growth, governance, and effective social justice (United Nations Conference on Trade and Development & United Nations Office on Drugs and Crime, 2020). Moreover, these flows include transfers from legal and illegal activities that are generally considered harmful for the global economic system. In that regard, IFFs are a transnational issue involving hidden flows that are extremely difficult for regulatory authorities and the public to track.

Various studies show the magnitude of the challenge for developing countries (Cobham & Jansky, 2020; Collin, 2020; Hickel, 2017). For instance, it is estimated that developing countries lose billions of dollars a year due to IFFs. Around 80% of IFFs are due to trade misinvoicing (e.g., evasion of customs duties, VAT taxes; Kar & Spanjers, 2015). In 2017, this value gap amounted to 18% of developing country trade, implying a significant diversion of resources away from the Global South's social, productive, and development priorities.

Consequently, in recent years, there has been a particular interest in improving international cooperation (standards, bodies, initiatives, dialogues) to enhance the capacity of governments to tackle IFFs with a clear understanding that it is essential to close fiscal loopholes and strengthen coordination and transparency between fiscal policies (e.g., the fight against tax havens; OECD, 2016). This includes the emergence of: (a) the Addis Ababa Action Agenda; (b) the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting in 2016; (c) the call made by the United Nations High-Level Panel on Financial Transparency, Accountability, and Integrity (FACTI) to set up a UN Tax Convention; and (d) the recent G7 tax agreement to set a minimum global corporate tax of at least 15%.

All these features highlight a constellation of risk factors with systemic connotations. In this regard, we argue that IFFs are a subproduct of inefficient international policies and multilateral regulatory frameworks that have decreased the scope of action of nation-states and reduced the incentives for them to cooperate in certain areas of financial markets and global governance that are particularly relevant for developing countries (e.g., international tax cooperation). However, this article does not seek to convey the idea of "state failure." On the contrary, we provide a broad overview of the changes and asymmetries emerging within the global capitalist system and the rising prominence of capital mobility and financial globalization. To this point, there is a broad range of literature from different perspectives, which reminds us how global financial networks, connecting with financial centres and offshore jurisdictions, have become financial vehicles through which transnational corporations and territories organize complex corporate structures to reduce costs, minimize tax payments, and maximize profits, among others (Navidi, 2017). In particular, two interrelated strands of research analyze the complex linkages.

In the first, institutions, regulations, and laws give an account of tailored processes that facilitate cross-border capital movements associated with illegal activities (Herkenrath, 2014; Shaxson, 2019). In the other, there is a vicious circle between tax evasion, corruption, and money laundering, including other illicit financial activities (Clark et al., 2015). The former involves a broad constellation of financial networks operating through exclusive circles from individuals and institutions, which promote hierarchical structures of power based on status, access to privileged information, and the promotion of closed policy circles, including the practices of regulatory capture of public policy by financial entities (Kellow et al., 2021; Ötsch, 2016). The latter includes the bond between political corruption, economic resources, and numerous transnational criminal organizations to foster illicit global supply chains (Christensen et al., 2016). Moreover, this interlinkage represents an additional threat to countries in the Global South, fuelled by adverse effects on tax systems and the promotion of rent-seeking structures, which usually comes at the expense of their social and productive fabric (as in the case of activities such as mineral extraction or human trafficking), and the general distortion in the functioning of democratic institutions (United Nations Conference on Trade and Development, 2020). Our approach complements the abovementioned literature by providing a structural and empirical approach to understanding and visualizing these phenomena in the developing world.

Our main aim is to shed light on the dimensions behind IFFs, which affect the multilateral order and create new dependencies between the Global North and the Global South. Section 2 provides a brief analysis of the complex institutional framework in which IFFs operate. Section 3 presents and discusses the main factors explaining IFFs obtained via multivariate techniques. To that end, we examine the problem of IFFs in developing countries from a cartographic perspective through the lens of phantom investment and trade misinvoicing to illustrate the complexities of this issue and its heterogeneous nature over the past few years. Finally, Section 4 concludes the article.

2. International Asymmetries in a Complex Economic System

Broadly speaking, IFFs reflect the strong asymmetries prevailing in the international monetary and financial system. Bretton Woods laid the foundation for long-term hegemonic stability by implementing key geopolitical and strategic objectives of the United States (US).

The Bretton Woods conference confronted two competing visions. On the one hand, a non-hegemonic proposal provided by Keynes focused on a framework of shared stability, essentially raising concern about the global economic and trade asymmetries of capitalism. His solution, in which surplus and deficit countries would split the burden of global trade surplus to the benefit of deficit countries, aimed to bring symmetry into the balance of payments adjustment (Keynes, 2013). The other proposal was a pragmatic approach propelled by H. D. White, which would be essential to deploy the construction and design of the national security of the US in three main strands: (a) economic and financial (through the consolidation of the hegemonic currency, the dollar); (b) military security; and (c) strategic. By doing this, the US defended its right to use a current-account surplus while at the same time imposing its model on the international monetary and financial system (Steil, 2013). Indeed, two relevant compensatory elements to the system were introduced under this framework: the International Monetary Fund (IMF) and the World Bank.

The issue here, as many scholars have suggested (Halevi & Varoufakis, 2003; Schwartz, 2019; Strange, 1987), is that the post-war order, shaped by the US, has developed a surplus recycling mechanism (SRM), which performs the functions of a global minotaur: a metaphor of the tribute that Athenians had to pay to Crete to feed the minotaur. This means that a hegemonic SRM is operating in the global economic system, which allows those surpluses generated by the great beneficiaries (industries, banks, MNCs, financial groups) of the world economy to be recycled in the form of capital inflows by the US through a complex institutional and financial system that helps to finance the US twin deficit. Additionally, this framework facilitates three key objectives: (a) to support the international credit system, (b) to encourage foreign investment by transnational corporations, and (c) to promote foreign investment in US Treasury bonds. This also implies more than one SRM within the system (Chochan, 2018). However, only one plays a hegemonic role, introducing the possibility of competition, rivalry, and potential conflict within the system without contravening the conditions for international cooperation among participants of the international order.

2.1. The Global Hydra

However, the hegemonic SRM is far from a linear process; it is full of transitions and changes. In the initial phase of the Bretton Woods system, the surplus from the US economy was recycled in Europe and Asia to create the necessary demand for US exports. After the collapse of the Bretton Woods system in 1971, there was a transition to a new international financial system. It is characterized by the following key elements: (a) the shift from a system of fixed to flexible exchange rates, (b) the deregulation of domestic financial markets, (c) the integration of global financial markets through monetary and financial interdependence, (d) the changes in capital controls, and (e) the globalization of intellectual property rights (Archibugi & Filippetti, 2010; Fields & Vernengo, 2013; Vermeiren, 2010). The substantial expansion of capital and financial flows and the emergence of new financial centres became central to the transition towards a new SRM that operates backwards: The US run trade and government deficits while absorbing surplus capital from abroad, which are then recycled through buying exports from its trading partners. Finally, the system becomes cohesive by using the dollar as the dominant international reserve currency (Schwartz, 2019).

The complement of the SRM is the hypothesis of the global hydra. According to Greek mythology, the hydra was a many-headed monster with the capacity to regenerate itself. Each time a warrior was able to chop off one of the hydra's heads, another one appeared soon after, making it a permanent threat until the cooperation between Heracles and his trusted servant finally allowed them to defeat the dreaded hydra. In line with our argument, there is evidence that the system has created new heads in the form of mechanisms of extraction and surplus recycling, which not only result in the implementation of new relations of dependency between rich and poor countries but also of multifaceted crises that are sources of global instability and unsustainability (Held et al., 2010; Hodge, 2013).

The post-war economic system created a broader set of actions, which might disguise the assistance for financing the gaps and asymmetries in developing countries through greater structural conditionality programs, enabling the expansion of foreign direct investment (FDI) inflows and the uneven distribution of public resources (Lang, 2021). The adoption of these programs has been the gateway to an institutional framework that endorses the expansion of international investment law to protect private intellectual property rights, FDI, and profitability for MNCs via both the agreements on Trade-Related Intellectual Property Rights (TRIPs) and Trade-Related Investment Measures (TRIMs) within the World Trade Organization (Chang, 2003). Likewise, these programs have also led to the emergence of a transnational legal order of international taxation that gave rise to tax havens and offshore financial centres (Slobodian, 2018).

The SRM is favoured by a variety of institutions that bring stability to the international monetary system, in which the US dollar still holds a central position. These most notably include key international financial institutions (such as the International Organization of Securities Commissions, the Basel Committee on Banking Supervision, the Financial Action Task Force, and the Financial Stability Board) that provide supervision and regulation of the international institutional architecture. However, while these institutions are relevant in setting the rules and standards for the global financial system, they still have a governance deficit, which translates into developing countries being under-represented within these institutions. Table 1 shows the preponder-

Table 1. Governance structure in six key financial institutions (countries' membership and percentage).

Income group	FATF_GAFI	%	FSB	%	BCBS	%	IFRS	%	BIS	%	IOSCO	%
LIC	0	0.0	0	0.0	1	3.7	0	0.0	0	0.0	6	4.4
LMC	1	2.7	1	4.2	1	3.7	0	0.0	5	8.1	28	20.7
UMC	8	21.6	8	33.3	8	29.6	3	25.0	16	25.8	35	25.9
HIC	28	75.7	15	62.5	17	63.0	9	75.0	41	66.1	66	48.9
Total	37	100.0	24	100.0	27	100.0	12	100.0	62	100.0	135	100.0

Notes: Based on membership in each institution: Financial Action Task Force (FATF), Financial Stability Board (FSB), Basel Committee on Banking Supervision (BCBS), International Financial Reporting Standards Foundation (IFRS), Bank of International Settlements (BIS), and International Organization of Securities Commissions (IOSCO). Income group classification follows the World Bank list of economies (June 2020), in which LIC refers to low-income countries, LMC to low middle-income countries, UMC to upper-middle-income countries, and HIC to high-income countries. Source: based on information from these institutions.

ance of high-income countries in terms of membership against the under-representation of the Global South. This inequality extends to countries' access to liquidity when under conditions of financial distress. The lending capacity of the Global Financial Safety Net in terms of potential liquidity access within the IMF, regional financial arrangements, and central bank currency swaps has a strong bias to high-income countries where middle- and low-income countries lose out, as shown in Figure 1.

Within this network of international financial institutions, tax havens emerged. According to the Tax Justice Network, tax havens amount to nearly US$32 trillion of private financial wealth in secrecy jurisdictions worldwide and cause significant distortion of existing financial resources, especially for the poorest countries (Andersen et al., 2022). This situation reinforces the idea that offshore markets significantly distort the compensation mechanisms of redistribution.

In sum, the dominant SRM resembles a global hydra with different speeds in its various dimensions over time, promoting a vision of a unified system. Each dimension reflects key elements of economic and financial globalization, as well as the roots of the unequal distribution of income and the hegemonic structure of the international monetary system through the monetary dominance of the US (see Figure 2).

The global hydra also shows the interconnection of institutional, commercial, productive, legal, monetary, financial, and policy structures that provide hidden mechanisms of extraction and surplus appropriation of developing countries based on the loopholes within the current tax systems. While some of these aspects highlight the central position of the US dollar (e.g., dollar assets and liabilities in banks and non-financial firms, oil profits priced in dollars, dollar-denominated debts), providing stability to the international monetary

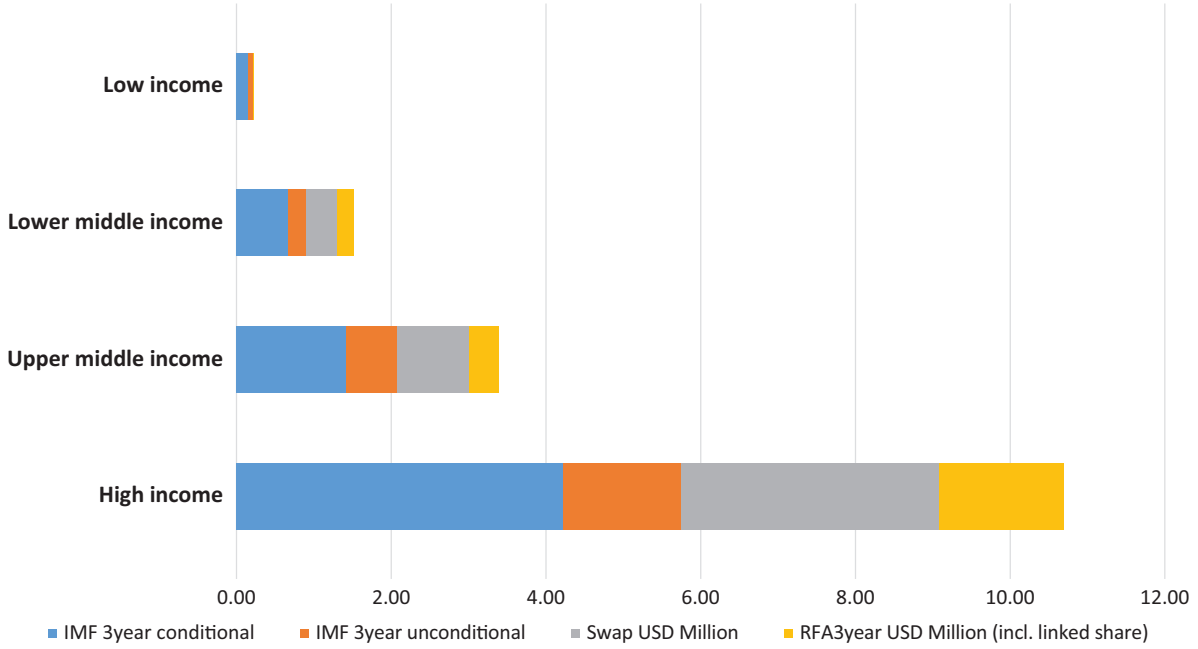

Figure 1. Global Financial Safety Net lending capacity 2019–2020 by income group (percentage of GDP). Note: Lending capacity on average per country between 2019–2020 as % of GDP weighted by GDP share. Source: based on data provided in Kring et al. (2020–2021).

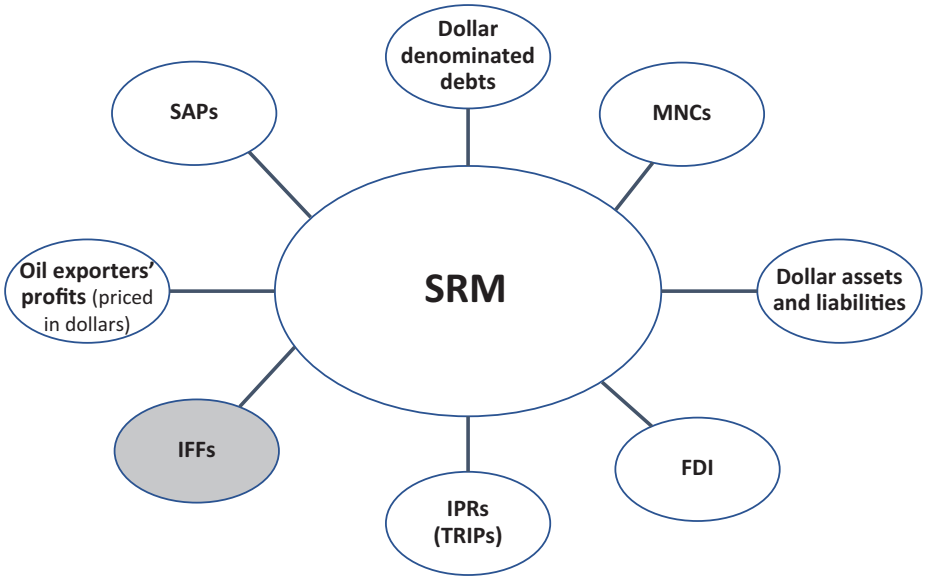

Figure 2. The global hydra: The role of the hegemonic surplus recycling mechanism (SRM). Notes: SAPs: structural adjustment programs; IPRs: intellectual property rights; MNCs: multinational corporations; IFFs: illicit financial flows; FDI: foreign direct investment.

system, others, such as the TRIPs and TRIMs agreements, have been an integral part of the structural adjustment programs for borrowing countries (mainly developing nations). Moreover, they represent a spearhead of the liberalization of international trade, the expansion of FDI and the global production networks based on MNCs.

All in all, in the context of low-tax jurisdictions for MNCs and wealthy individuals (among other negative externalities), the critical components of the global hydra have facilitated the expansion of surplus recycling back to the US and other emergent powers, as well as to offshore financial centres. This also explains the expansion of IFFs in the global economy as part of a whole system that distorts revenue mobilization and affects the domestic economy of developing countries. And precisely here lies the structure of persisting global imbalances between surplus and deficit countries and the growing problem of income and wealth inequality within countries.

2.2. Illicit Financial Flows and the Complexity of the Contemporary Global Order

Over recent years, IFFs have received much public attention and a target (16.4) of the United Nations' 2030 Agenda for Sustainable Development, which aims to reduce illicit financial and arms flows by strengthening the recovery and return of stolen assets and combating all forms of organized crime.

IFFs include illicit activities, such as trade misinvoicing—the most significant component—and illegal practices, including financing of organized crime, public corruption, and tax evasion. This means, according to the IMF:

> The movement of money across borders that is illegal in its source (e.g., corruption, smuggling), its transfer (e.g., tax evasion or tax avoidance from multinational corporations), or its use (e.g., terrorist financing). (International Monetary Fund, 2021)

These financial flows aim to transfer money outside of a country, mainly to offshore jurisdictions with a high level of financial secrecy.

Indeed, a high level of IFFs cannot be understood without paying attention to a whole range of transmission mechanisms, including networks of complicity (dominant political, financial, and economic elites) that facilitate and promote illegal activities such as global criminal activities. Overall, IFFs undermine the fiscal position of nation-states and divert resources away from social and economic development, to the detriment of the institutional fabric of developing countries. Furthermore, IFFs undermine governance, multilateral institutions, and citizens' trust in democratic institutions.

Fundamentally, the effects of IFFs can be greater in developing countries due to their negative influence on domestic resource mobilization, particularly through channels such as tax capacity and spending efficiency that ultimately have repercussions on economic growth. Similarly, it should be emphasized that high levels of IFFs are associated with the extractive sectors of developing countries (Le Billon, 2011).

As seen above, however, interlinked factors in several areas provide stability to the international system, which may reflect what some authors have called the transformation to a multifaceted system of global governance (Eilstrup-Sangiovanni & Hofmann, 2020). Figure 3 provides a graphical representation of the relationship between IFFs and other variables of interest: corruption,

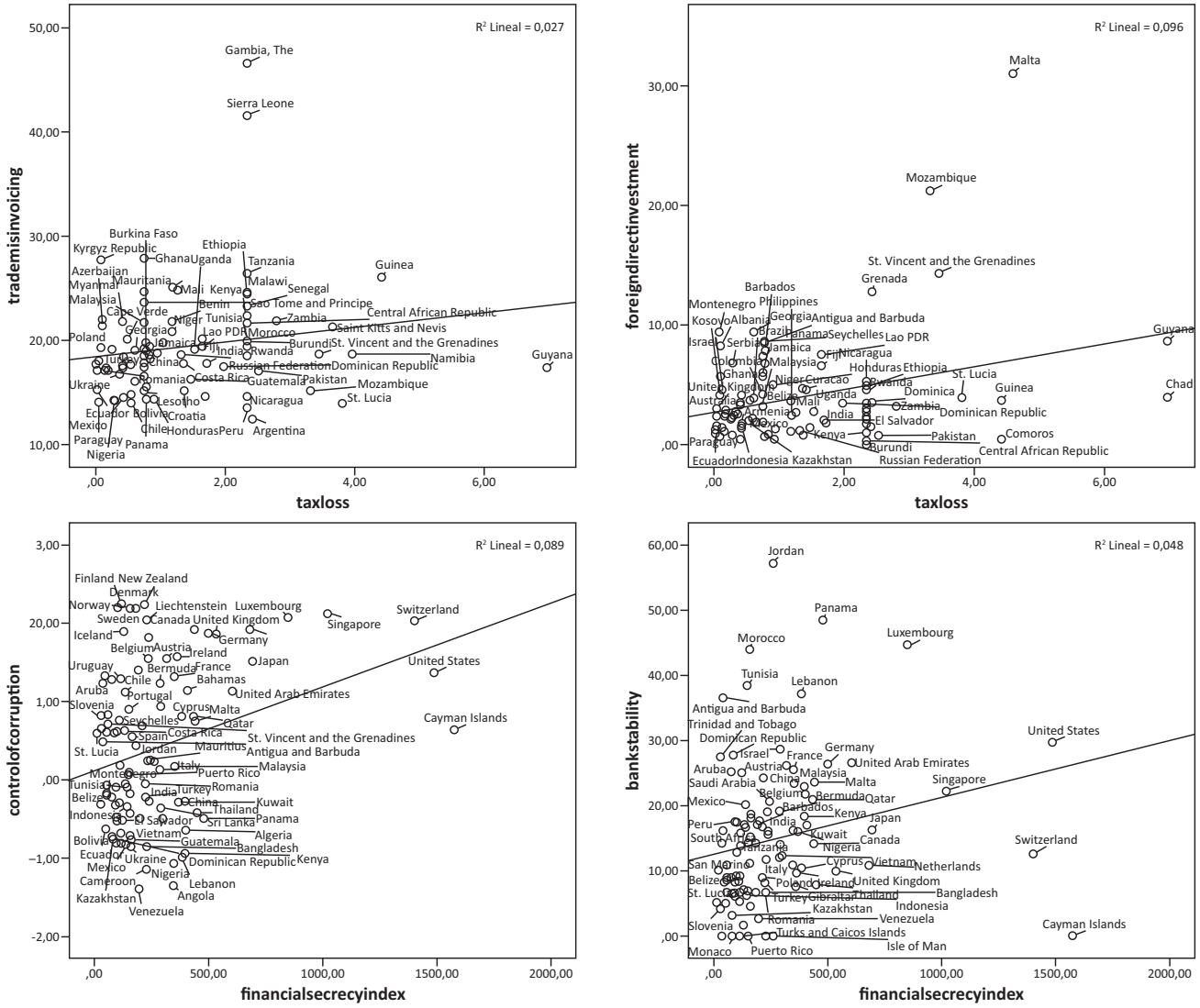

Figure 3. Key relationships between IFFs and the global economy. Source: Tax loss % GDP based on data from Cobham and Jansky (2020).

tax loss, FDI inflows, and bank stability. On the one hand, these interactions reveal the positive relationship between IFFs and tax loss and the positive correlation of profit-shifting and tax revenue losses related to FDIs. On the other hand, they also reveal a clear positive link between the levels of corruption and global financial secrecy, as measured by the Financial Secrecy Index provided by the Tax Justice Network (2020). This extends to the link between bank stability and the use of secrecy loopholes, which in our argument have proved to be an essential factor behind this phenomenon.

Two significant questions have arisen so far: (a) What are the most relevant dimensions (governance, trade, finance, taxation, monetary) within this particularly complex issue? (b) Based on this analysis, what taxonomy of developing countries can be obtained? In other words, are there groups of similar countries that can be useful for comparative purposes? The following section seeks to answer these questions.

3. Methods

3.1. Factor Analysis

We examine the various dimensions of IFFs through multivariate techniques. More specifically, we invoke the complementary use of factor and cluster analysis methods based on the most recent information available. The primary step of factor analysis is to reduce the data by finding a minimum number of factors from a large number of variables, including information for developed and developing countries. This means that we discard some variables after applying the extraction method and obtaining an inadequate sample size. This is the case of the cryptocurrency index, which might suggest that the issue of digital money within the problem of IFFs is still in its early stages. Table 2 shows the dimensions, variables, and sources on a sample of 85 countries using data over the last five years (2015–2020). We use six dimensions (governance, trade, finance, taxation, monetary,

Table 2. Description of variables.

Dimensions	Proxies	Description	Sources	Period
Governance	Government effectiveness	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government's commitment to such policies	World Bank (2021a)	2015–2018
	Control of corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests	World Bank (2021a)	The latest available (2015–2018)
	Rule of law	It reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence	World Bank (2021a)	The latest available (2015–2018)
Trade	Trade	The sum of exports and imports of goods and services measured as a share of gross domestic product (geometric mean)	World Bank (2021b)	2015–2019
Finance	Foreign direct investment	Foreign direct investment, net outflows (% of GDP) (geometric mean)	World Bank (2021b)	2015–2020
	Financial Secrecy Index	It measures the secrecy of jurisdictions and the scale of their activities to create a ranking of the countries that most aggressively provide secrecy in global finance	Tax Justice Network (2021)	2020
	Trade misinvoicing	It includes the detection of trade misinvoicing by identifying the "value gaps" or mismatches in reported international trade data between 135 Developing Countries and all of their Trading Partners, as a percent of Total Trade (geometric mean)	Global Financial Integrity (2021)	2015–2017
	Cryptocurrency index	It measures four metrics (on-chain cryptocurrency value received; on-chain retail value transferred, both weighted by PPP per capita; number of on-chain cryptocurrency deposits, weighted by number of internet users; and P2P exchange trade volume, weighted by PPP per capita and number of internet users). Values are normalized. The scale is between 0 and 1. The closest to 1, the higher the rank.	Chainalysis (2020)	2020
	Phantom investment	It includes the estimated share of total inward FDI where the immediate investor is a foreign phantom corporation.	Damgaard et al. (2019)	2017
Taxation	Tax revenue	Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue (geometric mean)	World Bank (2021b)	2015–2018
Monetary	Bank stability	It captures the probability of default of a country's commercial banking system	World Bank (2021c)	2017
	Inflation	Average inflation rate during each period	World Bank (2021b)	2015–2019
Criminality	Homicides	Intentional homicides are estimates of unlawful homicides purposely inflicted as a result of domestic disputes, interpersonal violence, violent conflicts over land resources, intergang violence over turf or control and predatory violence and killing by armed groups	World Bank (2021b)	2020

criminality) and 13 variables. Sample selection aims to maximize data availability and avoid redundant information. Data were standardized, followed closely by sampling adequacy, using the overall Kaiser–Meyer–Olkin (KMO), which must not be < 0.5, and Bartlett's test of sphericity. As shown by the KMO coefficient of 0.743, the highly statistically significant Bartlett's test (χ^2_{45} = 360.5, P < 0.000) and its determinant of the correlation matrix (0.000), the factor analysis is suitable for our purposes. To identify factors, we performed a principal component analysis with varimax orthogonal rotation. The extraction of the factors is primarily obtained from the analysis of the total variance, which in this case extracted four main components that explained 77% of the cumulative variance.

We then continue with the analysis of factor rotation, which helps us interpret factor loadings into a simple structure. The rotated component matrix (Table 3) highlights (in italics) the most relevant variables within each of the four factors.

These rotated factor loadings represent the estimates of the correlations between the variables and the factor where the possible values range from −1 to +1. In our results, the first factor relates to governance issues. Higher levels of correlation indicate that it is better explained by the rule of law. The second factor illustrates risks associated with FDI inflows and trade triggering trade misinvoicing and tax avoidance practices. In this respect, while the role of FDI inflows stands out, the trade issue should not be neglected, considering that both present similar levels of correlation. The third factor stresses the idea of bank stability, which is more relevant than the issue of criminality (proxied by the number of homicides). The fourth factor underlines the importance of taxation and the influence of global financial secrecy.

Finally, we perform a one-way ANOVA analysis in two scenarios to verify significant differences between the components. At this point of the analysis, we substitute our proxies related to trade & finance (FDI inflows and Trade) with the use of phantom investment and trade misinvoicing, respectively. The reason is simple: We want to show both the close connection between these indicators (i.e., phantom investment accounts for almost 40% of global FDI), and to reflect as accurately as possible the scope of the problem related to IFFs, in an attempt to address the concern provided by Forstater (2018). In this sense, our four main factors are statistically significant (the F-test, which is used to determine statistical significance, shows a good indicator of the relationship between the general variation between components and the general variation within the same dimensions; see Table 3). The variable with the greatest discriminating power is FDI inflows, proxied by fraudulent (phantom) investment, which flows through corporate shells to avoid paying taxes in host countries, followed by bank stability, tax revenue, and rule of law. In parallel, the same applies to the second scenario based on Trade, proxied by trade misinvoicing, which involves mismatches in reported international trade data (false declarations of value on trade transactions) by trading companies, including both legitimate firms and illicit criminal networks alike. In this case, the relevance of bank stability remains in second place, followed by rule of law and tax revenue.

3.2. Cluster Analysis

Cluster analysis is a multivariate method, which aims to classify a sample of data into several groups, called clusters. While clusters are characterized by shared similarities within the same group (cluster), they also reflect differences in relation to other clusters. This technique aims to provide classifications that offer "objective" and "stable" solutions whilst respecting the requirements of homogeneity and dissimilarity within and between groups (Everitt et al., 2011; Tezanos & Sumner, 2016, p. 853). The procedure follows three main steps: (a) calculate the distances between clusters, (b) link the clusters, and (c) help to determine the optimal number of clusters. First, we perform a hierarchical cluster analysis

Table 3. Component Matrix and ANOVA.

	Component Matrix[a]					
	Stage 1				Stage 2	
	Rotated Component				ANOVA (F-test)	
					Scenario 1	Scenario 2
Proxies	Governance	Trade & Finance	Bank stability	Tax revenue	Phantom investment	Trade misinvoicing
Rule of law	*0.966*				11.256*	24.854*
FDI inflows		*0.896*			42.815*	
Trade		*0.807*			30.172*	100.826*
Bank stability			*0.750*			31.913*
Tax revenue				*0.809*	12.250*	21.325*

Notes: Extraction Method is the Principal Component Analysis. Rotation Method is the Varimax with Kaiser Normalization. Rotation converged in five iterations. ANOVA test and its significance *: p < 0.001.

using Ward's method (1963). Then, as shown previously, we use the four determining components from the previous factor analysis to proceed with our methodology (the cluster analysis). Here, however, we consider two possible solutions highlighting the role of phantom investment and trade misinvoicing.

The first clustering hierarchical solution (using phantom investment) is composed of four clusters of developing countries (Table 5), revealing the main characteristics in terms of differences across clusters (Figure 4), the heterogeneous composition of the developing world (Figure 6), and similar shortcomings provided by the current global financial order.

Cluster 1 (C1) is the largest group (34 countries) and the most heterogeneous cluster as it includes mostly lower-middle-income countries (LMCs), followed by upper-middle-income countries (UMCs) and low-income countries (LICs). It is mostly the combination of Sub-Saharan African and Latin America & Caribbean regions, including two of its most relevant economies: Mexico and Argentina. These countries maintain a balance between levels of tax revenues and bank stability that expose them to the danger of tax avoidance through substantial FDI inflows. In addition, this cluster shows excessive laxity (with the highest levels of permissiveness) in terms of legal systems.

Cluster 2 (C2) is the third largest group (9 countries) that is strongly focused on UMCs from three main regions: East Asia & Pacific, Latin America & Caribbean, and Sub-Saharan Africa. The shape of this group is the result of low exposure to tax avoidance in terms of FDI inflows and high levels of fiscal revenue.

Cluster 3 (C3) is the second largest group (30 countries). It is also heterogeneous, with a focus on UMCs. Nonetheless, it is also where key emerging economies such as China, Russia, Turkey, Brazil, and South Africa are located. This cluster is very similar to C1. However, the main difference is that this cluster has the highest levels of phantom FDI inflows in a better observance of the rule of law within the group and with low levels of tax revenue.

Cluster 4 (C4) is the smallest group (6 countries). Its peculiarity remains in the highest level of bank stability combined with substantial phantom FDI investment and low tax collection levels. It is mainly composed of LICs and is primarily located in the Middle East and North Africa.

As seen above, the second clustering solution (using trade misinvoicing) confirms the diverse and particularly complex nature of IFFs. In this regard, the heterogeneity in the developing world becomes more evident (Table 5), stressing the importance of critical issues of governance, transparency, and accountability on the part of governments, international institutions, and the private sector (Figures 5 and 7). The analysis confirms the existence of four clusters but through the lens of illegal trading activity. In contrast to the earlier cluster analysis, the only group that remains is C3, which is identical to C4 from our previous analysis.

Table 4. Cluster membership of developing countries based on two scenarios.

	Cluster membership
With phantom FDI inflows	C1 (34 countries): Afghanistan; Albania; Angola; Argentina; Armenia; Azerbaijan; Bangladesh; Belarus; Cambodia; Cameroon; Central African Republic; Colombia; Congo, Rep.; Dominican Republic; Egypt; Arab Rep.; Equatorial Guinea; Gabon; Guatemala; Guinea-Bissau; Iraq; Kenya; Kyrgyz Republic; Mali; Mexico; Mongolia; Papua New Guinea; Paraguay; Peru; Senegal; Sudan; Togo; Tanzania; Uzbekistan; Zimbabwe. C2 (9 countries): Belize; Costa Rica; Ghana; Jamaica; Lesotho; Namibia; St. Lucia; St. Vincent and the Grenadines; Timor-Leste. C3 (30 countries): Bhutan; Bosnia and Herzegovina; Botswana; Brazil; Bulgaria; Burkina Faso China; Ethiopia; Fiji; Georgia; India; Indonesia; Kazakhstan; Madagascar; Malawi; Malaysia; Mozambique; Myanmar; Nicaragua; Philippines; Moldova; Russian Federation; Rwanda; South Africa; Sri Lanka; Thailand; Turkey; Uganda; Ukraine; Zambia. C4 (6 countries): El Salvador; Honduras; Jordan; Lebanon; Morocco; Nepal.
With trade misinvoicing	C1 (56 countries): Afghanistan; Albania; Angola; Argentina; Azerbaijan; Bangladesh; Belarus; Belize; Brazil; Burkina Faso; Cambodia; Cameroon; Central African Republic; China; Colombia; Congo, Rep.; Dominican Republic; Egypt, Arab Rep.; El Salvador; Ethiopia; Ghana; Guatemala; India; Indonesia; Kazakhstan; Kenya; Kuwait; Kyrgyz Republic; Madagascar; Malawi; Mali; Mexico; Mongolia; Mozambique; Myanmar; Nicaragua; Paraguay; Peru; Philippines; Moldova; Russian Federation; Rwanda; Saudi Arabia; Senegal; Sri Lanka; Thailand; Timor-Leste; Togo; Turkey; Uganda; Ukraine; United Arab Emirates; Tanzania; Uzbekistan; Zambia; Zimbabwe. C2 (22 countries): Armenia; Barbados; Botswana; Bulgaria; Chile; Costa Rica; Croatia; Fiji; Georgia; Hungary; Jamaica; Lesotho; Malaysia; Mauritius; Namibia; Poland; Romania; St. Lucia; St. Vincent and the Grenadines; Seychelles; South Africa; Uruguay. C3 (6 countries): Honduras; Jordan; Lebanon; Morocco; Nepal; Trinidad and Tobago. C4 (1 country): Iraq.

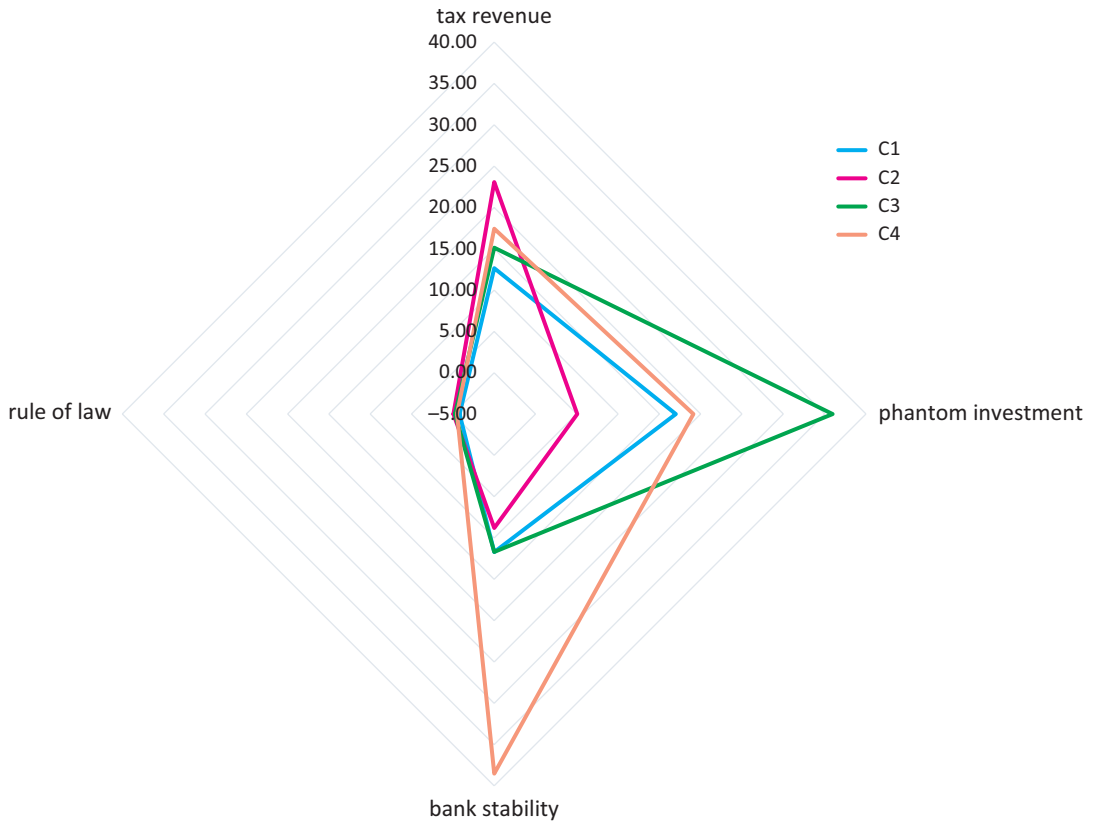

Figure 4. Differences across clusters' averages (with phantom investment).

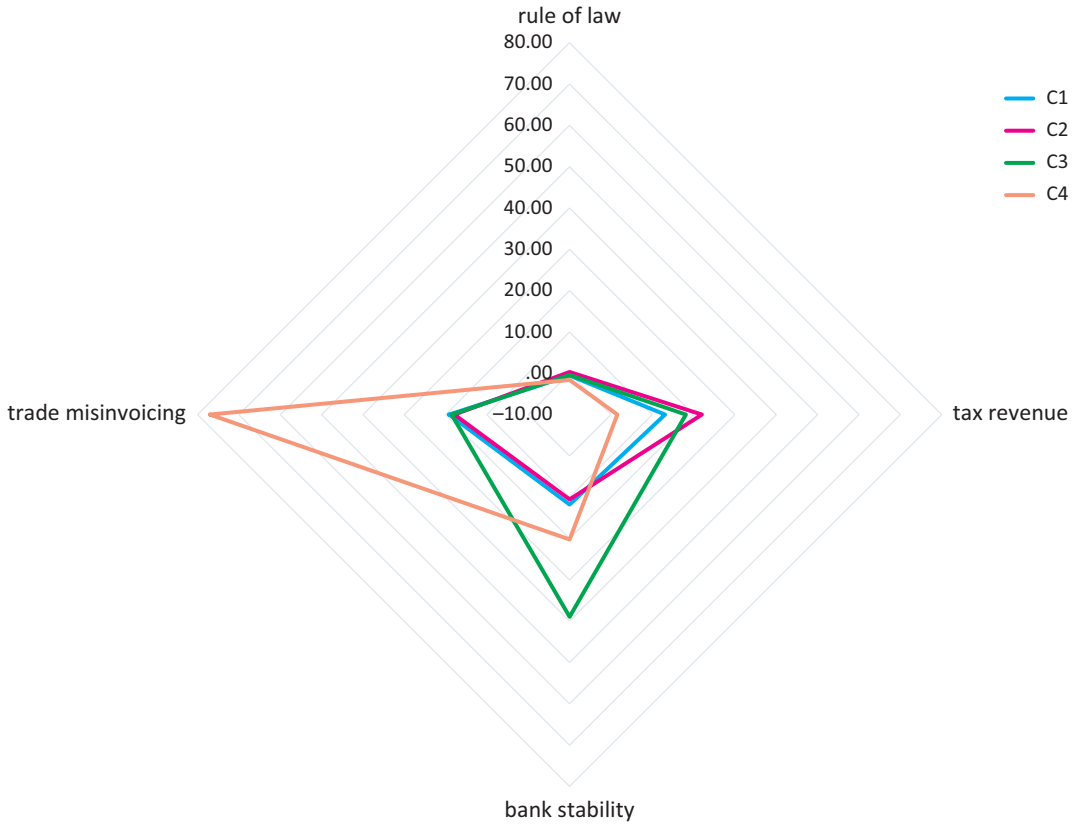

Figure 5. Differences across clusters' averages (with trade misinvoicing).

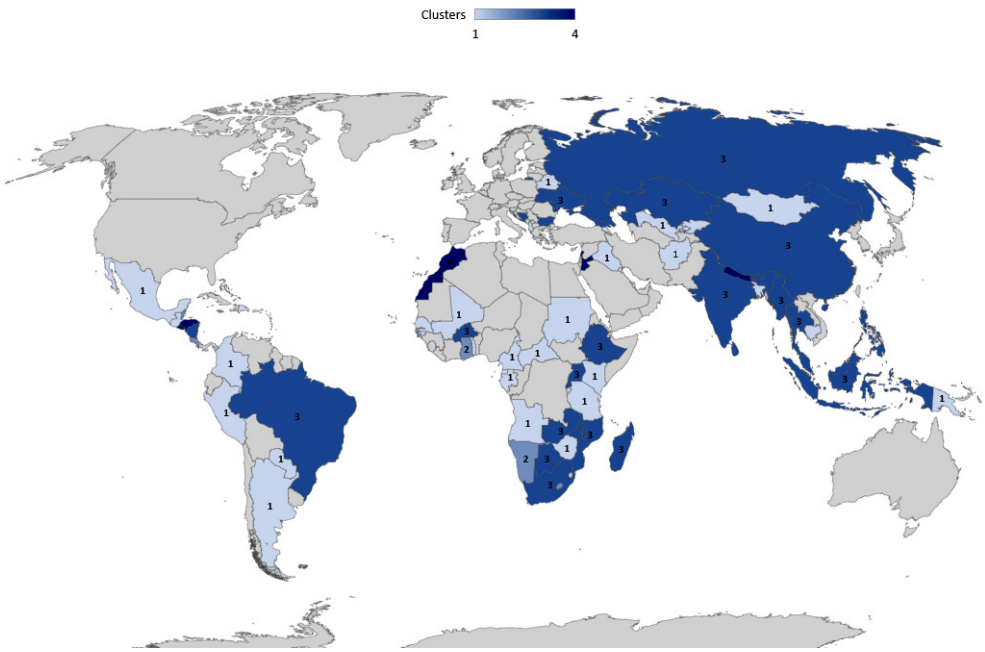

Figure 6. Country clustering in their geographical location with phantom investment.

C1 is still the largest (56 countries) and most heterogeneous group, including LMCs, UMCs, and LICs. It is important to point out that this cluster contains the entire group of LICs from the whole sample. Again, it includes some of the most relevant emerging markets, such as Brazil, China, India, Mexico, and Russia. These countries face the biggest disequilibrium in terms of tax revenue and IFFs based on trade misinvoicing in addition to a deficit regarding the rule of law.

C2 is the second largest group (22 countries), consisting mainly of UMCs. This cluster has similarities with C1; however, countries in this group, such as Uruguay, Poland, Chile, and Costa Rica, have a better fiscal structure and a positive level of rule of law. Nevertheless, they face high trade gaps regarding IFFs, which are slightly lower than C1.

C3 is the third largest group (6 countries). It includes mainly LMCs. Interestingly, these countries are characterized by offering high levels of bank stability in a context of relatively good fiscal revenues. However, they still have high levels of IFFs gaps and negative values for the rule of law.

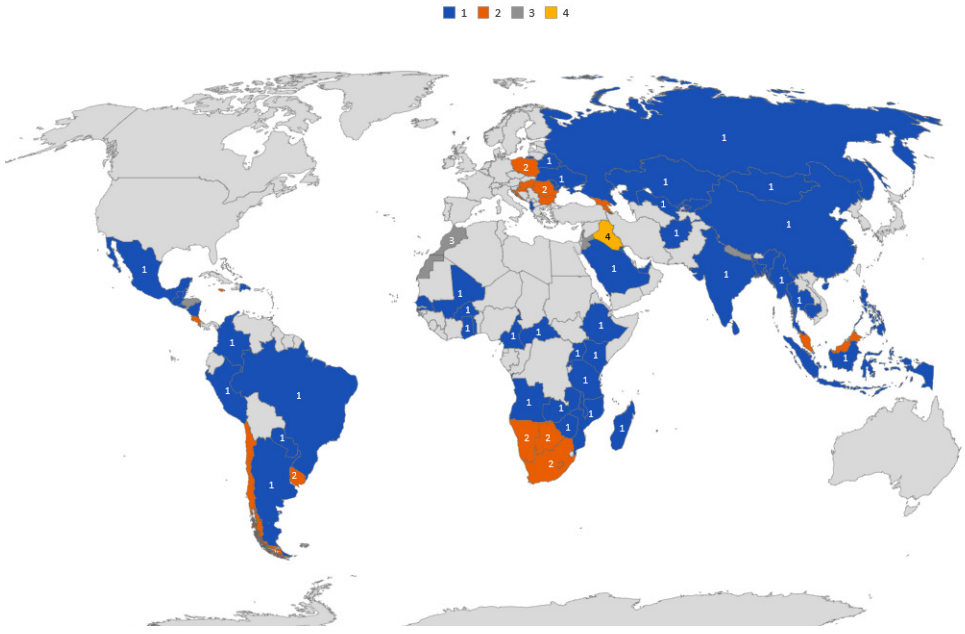

Figure 7. Country clustering in their geographical location with trade misinvoicing.

C4 is a single country, which mainly reflects a geopolitical issue. After the US intervention, it points out that Iraq has been troubled by unstable and poor governments where the destruction of the social and productive fabric prevails and is hand in hand with the emergence of corruption and organized crime. In this context, social exclusion, illicit activities, and capital outflows (e.g., trade misinvoicing and smuggling of oil) have notably grown in recent years (World Bank, 2017). The evidence indicates a similar pattern observed in C3 regarding the strong association between IFFs gaps and bank stability.

In comparative terms, our analysis exemplifies the multifaceted problems of IFFs that arise from different sources: institutional, structural, legal, productive, and fiscal, among others. However, in recent years, the main problem seems to lie in the exposure to tax avoidance coming from the dynamics of FDI, aggressive tax-planning strategies by MNCs, and the connection to well-known tax-havens. This means that a growing flow of investment is not connected with real business activity in developing countries, creating significant distortions at the economic, fiscal, and social levels. Alongside this is the issue of trade misinvoicing. Therefore, we should not expect a "one-size-fits-all" scenario but rather equally important connections.

4. Policy Implications

At the heart of the debate about curbing IFFs is the question of whether different economic, political, and domestic legal systems create the necessary conditions to tackle IFFs. It is of particular interest whether they are able to cooperate to reduce trade-offs and conflicts in their fight against IFFs in a context of a growing global struggle/rivalry between different SRMs, emulating a "war for surpluses" at the global level. In practice, there are different strategies and recommendations provided by multilateral and international organizations regarding the fight against IFFs (i.e., the OECD Anti-Bribery Convention, the Financial Action Task Force 40 Recommendations, the UN Convention Against Corruption), which reflect the complex and transnational character of this issue. From this, there is a certain consensus about the need to make progress towards a more comprehensive and coherent framework (OECD, 2016). However, the lack of an integrated system reflects the existing gap between global standards, adaptation, and implementation at the domestic level. This challenge not only requires a plural and multifaceted action to build up institutional capacities that align with international standards. It also implies greater coordination of national and global policies in the fight against IFFs. This involves, in particular, giving attention to the specific needs of the heterogeneous Global South. Our analysis has provided evidence that middle-income countries (both LMCs and UMCs), are affected to a significant extent by phantom investment and trade misinvoicing.

Nonetheless, there are differences between these two at the regional level. The problem of phantom investment, taking account of their specific features, is more acute in Sub-Saharan Africa (C1, C2, and C3), followed by Latin America & Caribbean (C1, C2, and C4), East Asia & Pacific (C2), Europe & Central Asia (C3), and the Middle East & North Africa (C4). As for trade misinvoicing, this issue affects a significant number of Latin American & Caribbean countries (C1, C2, and C3), followed by Sub-Saharan Africa (C1 and C2), Europe & Central Asia (C2), and the Middle East & North Africa (C4). In both cases, there are strong implications for emerging and anchor countries in the Global South. These countries promote a comprehensive approach to implementing policies (such as tax incentives) to attract FDI to stimulate their growth.

Yet, this has proven to be a trap for their development process. The evidence suggests that much of this investment is phantom in nature, affecting the tax structure of these societies, their productive structures, and their environment due to the low degree of linkages with the real economy and the concentration of these flows within sectors that have high environmental impacts. Similarly, the driver of international economic integration based on trade agreements and the export-led growth strategy embedded in the global trade liberalization discourse is challenged by the distortions emerging from trade misinvoicing practices, and their associated tax revenue losses for the developing world. Again, both features suggest that the international system provides perverse incentives for sustainable progress in the Global South, challenging the mainstream approaches to development (Leach et al., 2021).

These results might be relevant for international, multilateral, and regional organizations, both as a reminder to support the needs of middle-income countries and to promote a more inclusive financial sector. In this respect, it seems clear that the governance structure in key financial institutions can be enhanced by supporting local financial authorities of developing countries and fostering international cooperation to address specific elements of IFFs (i.e., improving collaboration between tax and anti-money laundering authorities). Similarly, this type of effort can be complemented at the regional level through cooperation initiatives to curb all forms of IFFs. Unfortunately, the loopholes in the agreement to implement a global corporate tax rate of 15% and the partial opposition of a group of tax-haven countries such as Ireland still leave the door open for MNCs to keep profit shifting and underpaying taxes—to the detriment of developing countries.

The question that arises in this complex issue is: Why is there no common strategy in some countries of the Global South (such as in the case of Latin America & Caribbean) to tackle this kind of threat for their societies yet? This is particularly important because providing a joint regional strategy against IFFs would directly expand their fiscal space and domestic resource mobilization.

This, in turn, would be highly desirable to rebuild better during and after the Covid-19 pandemic, taking into account that Sub-Saharan Africa, Latin America, and the Caribbean suffer from an extreme concentration of capital and social inequality, which have worsened during the Covid-19 pandemic (Chancel et al., 2022). In any case, the deficit in the coordination of policies and measures at the global, regional, and local levels continues to be an ongoing issue where difficulties in addressing this type of challenges seem to be more related to a lack of political will and governance failures than to a lack of capacity.

5. Conclusions

The era of financial globalization has brought numerous opportunities and a rising scale of vulnerability from the globalized financial sector's greed. Within this framework, there is growing concern about the progression of IFFs, which has been incorporated into the recent Agenda 2030 for Sustainable Development. However, little headway has been made due to the disguised nature of the problem and partial progress in conceptual and methodological matters. The global problem of IFFs includes fraud, corruption, evasion, money laundering, trade misinvoicing, and tax avoidance by MNCs. While they reflect new forms of doing business and have increased profit in the world economy, these actions need to be viewed within an integrated approach and a long-term perspective. We argued that IFFs should not be seen as an isolated phenomenon but as part of a global strategy that was put in place following the Second World War. By doing so, steps were taken on the path to a hegemonic SRM by means of a set of institutions, bodies, structures, and policies. This SRM, however, is far from being a uniform phenomenon; on the contrary, it is full of transitions and spreading mechanisms, evoking the idea of a global hydra.

However, financial globalization has introduced distortions to the system, exacerbating asymmetries and inequalities within and between countries. Among these distortions, IFFs are becoming an increasingly relevant issue. Asymmetries translate into an extremely low representation of developing countries, particularly of LICs, in various core institutions for financial governance. This greatly affects their potential to provide greater equity and concrete measures to tackle IFFs and reverse the deterioration of the institutional capacity of developing countries in different strands, such as tax collection, capital flight, corruption, and the massive drain on public and private resources, among others. This situation poses a global paradox. On the one hand, it reaffirms that the dominant SRM has strong roots within the phase of financial globalization and is already hitting developing economies hard through various mechanisms, including IFFs. On the other, this framework stands out as a formidable challenge, which requires the international community's significant and persistent institutional efforts and coordination to rethink our strategies and correct the course towards a more sustainable future.

In this regard, IFFs can also be understood as a subproduct of inefficient international policies and multilateral regulatory frameworks that have decreased the scope of action of nation-states and reduced the incentives for them to cooperate in certain areas of financial markets and global governance that are of particular importance for developing countries (e.g., international tax cooperation and the need to combat IFFs).

Indeed, while the global asymmetries largely depend on the dispute over the hegemony of the world economy, current developments within the multilateral system seem to indicate that progress in this field is slow and remains at least one step behind the challenges and threats of an extraordinarily complex world, as shown in the case of international tax loopholes and the bleak future for a wide range of developing countries in the post-Covid-19 era.

Our empirical analysis reinforces the importance of four main components behind the issue of IFFs: (a) governance issues, primarily the rule of law; (b) risks associated with FDI and trade; (c) bank stability; and (d) tax revenue. Similarly, our hierarchical clustering solutions provide four groups of developing countries, revealing the heterogeneous composition of the Global South and similar shortcomings supplied by the contemporary global financial order.

Comparatively speaking, our analysis highlights the need to bring a geographically differentiated approach to policy measures against IFFs through three thematic threads: (a) the agenda on corporate taxation to limit tax avoidance through phantom investment and trade misinvoicing, (b) boosting the fight against money laundering and criminality, and (c) moving swiftly towards more inclusive and sustainable global standards from six key financial institutions to meet the challenges of tackling IFFs.

Finally, it will be extremely difficult to curb IFFs and the emerging inequalities after the Covid-19 crisis without effective international cooperation. Therefore, it is also essential to the political will of major powers that key asymmetric structures and mechanisms that play against a broader number of developing countries are addressed. In other words, as in the case of the myth of the hydra, we need to accomplish a herculean task by drawing up better coordination, cooperation, and inclusion to address the root causes of IFFs and the contradictions that exist in the current international order.

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Conflict of Interests

The authors declare no conflict of interest.

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