

International Development Policy Series – 17

MISSING DOLLARS

Illicit Financial Flows from Commodity Trade

Edited by

**Gilles Carbonnier, Fritz Brugger,
Elisabeth Bürgi Bonanomi, Fred M. Dzanku
and Sthabandith Insisienmay**

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Missing Dollars

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Foreword

We are pleased to introduce the 17th volume of *International Development Policy*, 'Missing Dollars. Illicit Financial Flows from Commodity Trade'. The huge volume of money that is illegally acquired, transferred or spent across borders has major impact on the global economy and a devastating one on poorer countries.

This thematic volume aims to develop a better understanding of how to conceptualise, measure and address illicit financial flows (IFFs). It explores IFFs from the perspective of host and home countries, taking seriously the opportunities for and obstacles facing cross-country collaboration. While acknowledging new complications brought about by declining trust in international cooperation and the growing tensions between the global North/Western countries and the global South, it maps important progress and promising partnerships via which to tackle IFFs.

The volume is the culmination of a six-year research project funded through the *Swiss Programme for Research on Global Issues for Development* (r4d programme). The project consortium brought together researchers from economics, political science and international law, enabling what the volume's editors aptly term a cross-fertilisation between disciplines at the conceptual and empirical levels.

Following *International Development Policy's* proud tradition of publishing the results of Swiss–South research partnerships, this volume is the result of a close collaboration among scholars working in Switzerland, Ghana and Laos, who jointly conceptualised and implemented the research and co-authored the contributions. This experience and its results as presented in this volume also highlight the need for more collaborative research across North–South divides. In the case of IFFs in particular, a global approach allows us to understand how the push and the pull factors of IFFs need to be analysed in relation to one another. We hope that open-access, co-authored publications stemming from such research will allow for a more democratic debate on this issue.

The current volume includes four sections and ten chapters. The first section introduces the thematic volume, providing a rich overview of the debates about IFFs, the term's contentious definition, and emerging global governance. Section II includes five chapters addressing the definition, measurement and drivers of IFFs. The diversity of approaches is a good portrayal of why interdisciplinarity is the only way to tackle this topic. Section III focuses on policy responses and innovations, with a mix of global governance instruments and case studies. It provides us with a window on an understanding of how much

has already been done and how much there is still left to do. The final section is a call for understanding IFFs in close dialogue with issues of sustainable development, in particular with the need to strengthen the role of host countries who are the providers of the strategic commodities necessary for development and the energy transition.

Chapter drafts were presented and discussed in an authors' workshop held at the Maison de la Paix in September 2023. We would like to thank workshop participants for providing relevant input to the authors, and the peer reviewers for their valuable insights. Finally, we are grateful to the Swiss Agency for Development and Cooperation (SDC) and the Republic and State of Geneva – Service for International Solidarity (SSI) for their financial support. We also appreciated the commitment of Centre on Conflict, Development and Peacebuilding (CCDP) at the Graduate Institute to this project and throughout the editorial process for this volume.

Our hope is that this volume will contribute positively to the diverse, rich and complex field of the national and global governance of IFFs and provide new insights into how to conceptualise and tackle this matter in alignment with the SDGs. We hope it may also be helpful in promoting innovative policies and triggering new debates among policymakers, scholars and the broader international community, ultimately contributing to the establishment of a more transparent, effective and equitable framework for international trade and taxation.

The Editors
Geneva, March 2024

Preface

International Development Policy is a critical source of analysis of development policy and international cooperation trends, aimed at an audience of scholars, policymakers and development professionals. It offers a diverse range of academic views from both industrialised countries and emerging economies.

International Development Policy is edited by the Graduate Institute of International and Development Studies, an institution of research and higher education dedicated to advancing world affairs. Located in Geneva, at the heart of an international centre of multilateral governance, the Graduate Institute benefits from a rich legacy linked to the founding of the international system and the League of Nations in the 1920s, and the emergence of the developing world in the 1960s.

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Abbreviations

ACP	Asociación Colombiana de Minería, Colombia
AETR	average effective tax rate
AML	anti-money laundering
ARDL	autoregressive distributed lag
ASEAN	Association of Southeast Asian Nations
ASGM	artisanal and small-scale gold mining
ASM	artisanal and small-scale mining
BEPS	base erosion and profit shifting
BER	Business and Enterprise Register, Switzerland
BIT	bilateral investment treaty
BoG	Bank of Ghana
BOST	Bulk Oil Storage and Transport Company, Ghana
BvD	Bureau van Dijk
CbCR	country-by-country reporting
CDE	Center for Development and Environment, University of Bern, Switzerland
CEP	Council on Economic Policies
CHF	Swiss franc
CIAT	Inter-American Center of Tax Administrations
CIT	corporate income tax
COP	Conference of the Parties Colombian peso
CTR	corporate tax rate
CUP	comparable uncontrolled price
CV	coefficient of variation
DCF	discounted cash flow
DGPP	Domestic Gold Purchase Programme, Ghana
DRC	the Democratic Republic of the Congo
DRM	domestic revenue mobilisation
DTA	double taxation agreement
ECLAC	Economic Commission for Latin America and the Caribbean
EEII	extractive industries
EITI	Extractive Industries Transparency Initiative
EMDES	emerging market and developing economies
EPZ	export processing zone
ESG	environmental, social and governance
ETMS	energy transition minerals
EU	European Union
EV	electric vehicle

FARI	Fiscal Analysis of Resource Industries model (of the IMF)
FATF	Financial Action Task Force
FATS	foreign affiliates statistics
FDI	foreign direct investment
FSO	Federal Statistical Office, Switzerland
FTA	free trade agreement
g/t	grams per ton
G20	Group of 20
G40	Gold-for-Oil (a policy of the Ghanaian government)
GAARS	general anti-abuse rules
GDP	gross domestic product
GFI	Global Financial Integrity (NGO)
GHEITI	Ghana Extractive Industry Transparency Initiative
GHS	Ghana cedi
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GLOBE	Global Anti-Base Erosion (an OECD initiative)
GTED	Global Tax Expenditures Database
ha	hectare
HS	Harmonized Commodity Description and Coding System, also referred to as the Harmonized System (World Customs Organization)
HVA	high-value assets
ICIF	International Consortium of Investigative Journalists
IDOS	German Institute of Development and Sustainability
IEA	International Energy Agency
IEAM	Impuesto Especial a la Actividad Minera (a special tax on mining activity, Chile)
IFFS	illicit financial flows
IGF	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
IISS	International Institute for Strategic Studies
IMF	International Monetary Fund
IOTCS	international oil trading companies
ISSER	Institute of Statistical, Social and Economic Research, University of Ghana
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
LAC	Latin America and the Caribbean
LBD	Longitudinal Business Database (US Census Bureau)
LBMA	London Bullion Market Association
LFTTD	US Longitudinal Firm Trade Transaction Database
LIFFE	London International Futures and Forwards Exchange
LME	London Metal Exchange

LMICS	lower- and middle-income countries
MAAC	Convention on Mutual Administrative Assistance in Tax Matters
MCAA	Multilateral Competent Authority Agreement
MDGS	Millennium Development Goals (UN)
METR	marginal effective tax rate
MLNR	Ministry for Lands and Natural Resources, Ghana
MNCs	multinational corporations
MNES	multinational enterprises
MSP	Minerals Security Partnership
NAICS	North American Industry Classification System
NIER	National Institute for Economic Research, Lao PDR
NPA	National Petroleum Authority, Ghana
ODA	official development assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
OPEC	Organization of the Petroleum Exporting Countries
PMMC	Precious Minerals Marketing Company
R&D	research and development
RIOMA	Renta Imponible Operacional Minera Ajustada (mining operational taxable income)
SDGS	Sustainable Development Goals (UN)
SITC	Standard International Trade Classification
SNMPE	Sociedad Nacional de Minería, Petróleo y Energía (national mining, oil and energy NGO, Peru)
SOE	state-owned enterprise
SONAMI	Sociedad Nacional Minera (national mining company, Chile)
Swift	Society for Worldwide Interbank Financial Telecommunication
TES	tax expenditures
TET	Tasa Efectiva de Tributación (the effective tax rate)
TPGS	Transfer Pricing Guidelines, OECD
UBC	University of British Columbia
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNIDROIT	International Institute for the Unification of Private Law
UNODC	United Nations Office on Drugs and Crime
USD	United States dollar
VAT	value added tax
ZIMRA	Zimbabwean Revenue Authority

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PART 1

*Introducing the Thematic Volume:
Key Findings and Recommendations*



Curbing Illicit Financial Flows in Commodity Trade and Beyond

*Gilles Carbonnier, Fritz Brugger, Elisabeth Bürgi Bonanomi,
Fred M. Dzanku and Stabandith Insisienmay*

Abstract

Establishing a more transparent, effective and equitable and framework for trade and taxation is crucial to enabling commodity exporting states to mobilise domestic resources for sustainable development. The current drive to reform the global governance of taxation offers opportunities, but takes place in the context of heightened North–South tensions, reduced trust in multilateralism and calls for deeper decolonisation. Drawing on a six-year multidisciplinary research project involving academic institutions from commodity exporting and trading countries, this chapter presents a research framework that the authors used for the study of illicit financial flows associated with commodity trade. It discusses major findings, and recommendations as to how to counter the ensuing tax base erosion in resource-rich developing countries. The latter can consider a range of policies and innovative measures to rein in commodity trade mispricing. But this is not enough. States hosting major trading and financial centres have to simultaneously address a range of pull factors. At the global level, fair taxation reform is key and must preserve a sovereign policy space, in which commodity exporting states may adopt context-specific solutions aligned with their institutional capacities. Finally, this chapter introduces the thematic volume of *International Development Policy* on illicit financial flows in the commodity sector and beyond.

1 Introduction

‘We don’t know the situation in your country. It’s *you*: *You* have to make regulations for your country. Not we in Switzerland.’ This is the response provided before the Swiss parliament in Bern by an elected member of a centre-right political party to a question posed by a journalist from Ghana. The latter was shooting a documentary film on the capacity of resource-rich developing countries such as Ghana to mobilise domestic resources to finance sustainable development. The documentary film involved researchers and advisers from a

multidisciplinary North–South consortium who studied the magnitude, root causes and major channels of illicit financial flows (IFFs) accruing from the mispricing of commodity trade.¹

While it is true that each sovereign state is expected to enact legislation to protect and advance its own interests, is this good enough to address IFFs? For example, do resource-rich developing countries have the policy space and the institutional capacity to adequately regulate the extraction and sale of their own natural resources? Do they have the ability to detect and identify the amount of commodity trade mispricing and abusive transfer pricing affecting their own country? If so, do they have the agency required to take the necessary corrective measures? In other words, is it enough to ask commodity-dependent developing countries to curb the push factors driving IFFs? Or should the pull factors be simultaneously tackled in major trade and financial hubs, and if so, how?

These are questions addressed by a group of economists, legal scholars and political scientists based in academic institutions in Ghana, Laos and Switzerland, led by the guest editors of this thematic volume of *International Development Policy*.² We have approached this complex, multifaceted phenomenon from a global perspective as well as through country cases and commodity-specific studies. Our overarching analytical framework consisted of looking at the whole value chain from extraction to consumption via trade and transformation, combined with an actor analysis focusing on the role and preferences of key stakeholders along that value chain, be it as regulators and policymakers, as policy implementers, as informants and data sources and generators, or as advocates and influencers.

In this thematic volume, we present selected findings from our North–South research consortium between 2018 and 2023 and discuss entry points for future

1 Koomsom, F., dir. (2024) *Missing Dollars: How Illicit Financial Flows Affect Developing Countries* (Geneva: Geneva Graduate Institute), available at <https://www.youtube.com/watch?v=5CUD0R8eeX0> (accessed on 13 February 2024).

2 The project includes researchers from the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana, the Lao National Institute for Economic Research (NIER), The Geneva Graduate Institute of International and Development Studies, the Swiss Federal Institute of Technology ETH Zurich, and the Center for Development and Environment (CDE) at the University of Bern. The guest editors acknowledge financial support through grant 400340_169564 from the Swiss Programme for Research on Global Issues for Development (r4d.ch) jointly funded by the Swiss National Science Foundation (SNSF) and Swiss Agency for Development and Cooperation (SDC). They also gratefully acknowledge the constructive feedback of three anonymous reviewers on the papers in this thematic volume, as well as the editorial team of *International Development Policy* for generous and efficient support.

research on IFFs accruing from trade in commodities. The Volume looks primarily at trade in metals and minerals, situating it in the expanding academic literature and policy debates on IFFs and the governance of global taxation. Three contributions are from authors who were not part of our research consortium but have been associated as members of our international advisory group, whose members were invited to provide input throughout the six-year research project.³

2 Why Trade-Related IFFs Matter

There was not much to celebrate as the international development community gathered in New York in July 2023 to conduct a mid-term review of the Agenda 2030 for Sustainable Development. Halfway through, the Sustainable Development Goals (SDGs) are all off track globally. Initial progress on some SDGs, such as combatting hunger, has been reversed as a result of multilayered crises, including the socio-economic consequences of the COVID-19 pandemic, the impact of the armed conflict between Russia and Ukraine on food and energy prices, the accentuation of climate change resulting in more frequent extreme weather events, and the lack of sufficient means to finance the SDGs.

While official development assistance (ODA) and international climate finance remain largely insufficient, renewed high levels of indebtedness and tighter budgetary constraints combined with persistent IFFs prevent the majority of developing countries from mobilising the domestic resources required to pay for development in line with SDG Target 17.1.⁴ Paradoxically, this holds true particularly in the case of commodity exporting countries, which do not reap the benefit of selling their natural wealth to strengthen their tax base. Beyond corruption and criminal activities, IFFs accruing from trade mispricing and abusive transfer pricing were singled out as a major impediment to mobilising domestic resources for development at the very launch of the 2030 Sustainable Development Agenda (see, e.g., Kar and Spanjers, 2014; Carbonnier and Zweynert de Cadena, 2015). Indeed, IFFs erode the tax base of commodity exporters by shifting taxable income and profits towards major

³ See the project page at <https://curbing-iffs.org/the-advisory-group/> (accessed on 13 February 2024).

⁴ To the extent that ODA is not expected to cover more than 4 or 5 per cent of SDG funding requirements, curbing IFFs is critical to resource-rich developing countries being able to mobilise the domestic resources needed to implement the 2030 Agenda for Sustainable Development (Carbonnier, 2016).

trading and financial hubs that typically display lower tax rates and lax regulatory regimes. The international community also remains off track regarding SDG Target 16.4, which calls for IFFs to be significantly reduced by 2030.

As some guestimates have concluded that trade and transfer mispricing might result in 6 per cent of Africa's gross domestic product (GDP) leaving the continent in the form of IFFs (Kar and Spanjers, 2014), curbing such losses is of the essence for Africa as it goes through an unprecedented demographic boom and must invest billions in infrastructure, health, education and other social policies, and in leapfrogging in the development of a digital economy as well as creating shared, sustainable prosperity.

Delineating what falls under IFFs remains a contentious issue. Major multilateral fora such as the Organisation for Economic Co-operation and Development (OECD) define IFFs as cross-border financial flows that are illegally earned, transferred, or utilised. This implies that even in cases where the money is legitimately generated, it can become illicit if transferred abroad in violation of exchange control regulations, corporate tax law or international tax agreements (OECD, 2011). There are numerous ways to transfer illicit capital across borders, be it through the financial system, the physical movement of value in monetary or other forms, such as gold or precious stones, or the *mispricing of traded goods and services*. The last of these often materialises through firms underinvoicing commodity exports to reduce or evade corporate income tax and any potential export tax levied by commodity producer countries (UNCTAD, 2016). Export overinvoicing may also be practiced, for example to benefit from export subsidy schemes. Another important IFF channel is *abusive transfer pricing*, whereby affiliates of a multinational group over- or underinvoice intra-firm transactions for the purpose of tax optimisation. This shifts profits from higher- to lower-tax-rate jurisdictions, often resulting in significant revenue losses for developing countries.

Some cross-border financial flows may *prima vista* not violate the letter of the law but go against the spirit of the law. Aggressive tax optimisation measures are often situated in a grey zone between tax avoidance and tax evasion by exploiting loopholes in an evolving global tax governance framework. When one takes a closer look, some unlawful activity is generally involved, although it is not apparent at first sight. Defining what is unlawful requires considering not only domestic law but also the relevant principles and rules of public international law as well as legal developments in other jurisdictions. Legal scholars have argued that legal interpretation should take account of ongoing regulatory developments to ensure a level playing field between countries with stronger and weaker lawmaking and law enforcement capacity, as well as the extent to which certain practices have a detrimental developmental impact (Musselli

and Bürgi Bonanomi, 2020; UNCTAD, 2020). For example, cross-border financial flows associated with aggressive tax avoidance that siphon resources out of poorer countries will most likely contravene certain rules or principles of multilevel tax framework and fall within the scope of countering IFFs.

With the energy transition away from fossil fuels and the digitalisation of economies, the demand for critical minerals and metals is booming and shall represent a significant source of domestic revenue for producer countries (LeBillon, this volume). In this context, addressing commodity trade-related IFFs has become ever more critical with a view to strengthening the tax base of low- and middle-income countries (LMICs) where vast amounts of critical mineral deposits are located.

3 Policy Context and Scholarly Debate

Significant efforts have been made over the past decade to reform the global tax system and address the fiscal challenges posed inter alia by the digitalisation of the world economy. Efforts focused on the economic activities of both individuals and multinational corporations. Looking beyond the commodity sector, major advances include an international agreement to exchange tax information, which entered into force in 2017, and an agreement on a global minimum corporate tax rate of 15 per cent, made in 2021. Both agreements have been adopted by more than a hundred countries.

3.1 *Global Tax Governance Reform*

In its Report *Global Tax Evasion 2024*, the European Union (EU) Tax Observatory sought to evaluate the impact of these new policies on reining in tax evasion by high-net-worth individuals and multinational corporations. The authors estimate that the automatic exchange of banking information may have contributed to reducing offshore tax evasion by a factor of three: from some 90 per cent of undeclared financial wealth held offshore in 2013 to only 27 per cent of undeclared wealth held offshore in 2022. While households continue to own the equivalent of 10 per cent of the world's GDP residing in tax havens globally, with an estimated USD 12 trillion in wealth held offshore in 2022, the share of it evading taxation has sharply declined. Various recent proposals⁵ have been

5 For example, the EU Tax Observatory recommends introducing a new global minimum tax equal to 2 per cent of the wealth of ultra-high-net-worth individuals, which would generate close to USD 250 billion in receipts (EU Tax Observatory, 2023). By November 2023, the US Senate had started considering the introduction of a Billionaires Income Tax. See United

put forth by researchers and think tanks to levy taxes on ultra-high-net-worth individuals—that is to say, on the 2,800 billionaires who enjoy extremely low personal effective tax rates as they end up paying the equivalent of 0 to 0.5 per cent of their overall wealth in yearly personal income and wealth taxes (EU Tax Observatory, 2023, 12–13).

While the ‘data big bang’ associated with the automatic exchange of tax information by banks—and the further exchange of data frameworks (Musselli and Bürgi Bonanomi, 2018)—had a highly significant impact on cutting down households’ tax evasion, this has not been the case with the ambitious corporate tax policy reforms undertaken since the OECD/G20 launched the Base Erosion and Profit Shifting (BEPS) initiative in 2015. As in the past, about a trillion US dollars of corporate profits were shifted to tax havens in 2022. This is the equivalent of 35 per cent of all corporate profits earned abroad by multinational companies globally. The revenue losses for states are significant, and amount to nearly 10 per cent of global corporate tax revenues (EU Tax Observatory, 2023, 8–9).

The BEPS project rests on two pillars: the first is to ensure that companies pay taxes in the jurisdiction in which they perform significant economic activities; the second sets a global minimum tax rate on corporate profits for the first time. Despite this landmark, 2021 agreement—involving over 140 countries and territories committed to introducing a minimum corporate tax rate of 15 per cent (OECD, 2021)—the deal has been watered down by a range of loopholes, such as the preferential treatment of refundable tax credit, the exemption of domestic profits of US multinationals, and a significant carve out whereby states can keep tax rates below 15 per cent for firms establishing significant production activities in their jurisdiction, allowing such firms to deduct a share of their assets and payroll from taxation in the first year (Cobham et al., 2021).

Notwithstanding efforts by the OECD to include lower-income countries as participants in its standard-setting bodies on an ‘equal footing’, there have been heated debates on the extent to which OECD-led processes allow for the meaningful participation of developing countries, many arguing that the United Nations (UN) offers a more inclusive framework (Hearson, 2023; Picciotto, 2023). On December 30, 2022, the UN General Assembly adopted a Resolution on ‘Promotion of inclusive and effective international tax cooperation at the United Nations’ (UNGA, 2023) and mandated a process to consider a UN tax

States Senate Committee on Finance, 2023, <https://www.finance.senate.gov/chairmans-news/wyden-leads-democratic-colleagues-in-introducing-billionaires-income-tax> (accessed on 13 February 2024).

cooperation framework or instrument. In November 2023, the UN General Assembly adopted a Resolution to start working on a new Tax Convention under UN auspices, giving LMICs greater decision-making power over global tax issues.

In a nutshell, what seemed utopic a decade ago regarding reducing tax evasion by high-net-worth individuals and setting a new framework for corporate taxation became reality. Yet little or no progress has been made regarding reducing corporate profit shifting, notwithstanding the BEPS process and the introduction of country-by-country reporting. Proposals to implement a higher minimum corporate tax rate or to lift the expanding list of exemptions have little chance of success politically, at least in the medium term. Scholars have long argued that properly addressing profit shifting requires doing away with the fiction of individually taxing the affiliates of a multinational corporation as *separate entities* and adopting instead a unified approach of global firms with value-chain subdivisions (unitary taxation) to tackle the root cause of the problem (Picciotto, 2023; Musselli and Bürgi Bonanomi, 2020).

In particular, trade mispricing remains a major IFF channel that erodes the tax base of many countries. *Trade mispricing* refers to trade at distorted prices with the intention of boosting company profits and/or deceiving tax/customs authorities. It includes misreporting the value, quantity, or nature of traded goods or services (*trade misinvoicing*). It also includes manipulating prices between related companies (*transfer mispricing* or *abusive transfer pricing*) (Musselli, Bürgi Bonanomi and Lannen, 2021).

Trade and transfer pricing is legal as long as such transactions are handled at fair market prices in line with the arm's-length principle. For tax authorities, it is often difficult to establish fair market price ranges, particularly for non-tangible products and services such as licences or advisory, management and marketing services. Abusive transfer pricing may involve a parent company overcharging for such services, the overpricing of patent fees, or the undervaluation of raw materials exported by an affiliate to a parent company within the same group. Empirical studies show that multinational enterprises tend to shift profits in response to tax differentials between countries, next to other internal and external incentives such as the existence of thin capitalisation rules or effective mineral auditing agencies (see, e.g., Arezki, Rota-Graziosi and Senbet, 2014; Marur, 2019; Mehrotra and Carbonnier, 2021). At the policy level, the home countries of multinational enterprises have, for the last three decades and through the OECD, successfully defended arm's length-based transfer pricing methods as being international best practice. In doing so, they have sidelined any substantial debate over alternative, simpler approaches to

establishing transfer prices that would benefit developing countries (Brugger and Engebretsen, 2020).

3.2 *Assessing Trade Mispricing*

To assess the volume of trade mispricing, economists have long resorted to mirror trade statistics, which consist of capturing the gaps in macro trade statistics reported by exporting and importing countries for the same commodity for any given year. Following this approach, Global Financial Integrity (GFI)—a Washington-based research and advisory organisation pioneering work on IFFs—estimated that trade mispricing had already surpassed USD 100 billion in annual lost tax revenues for developing countries in the early 2010s (Kar and Spanjers, 2014). The High-Level Panel on Illicit Financial Flows from Africa—chaired by former South African President Thabo Mbeki—estimated that African countries had lost more than USD 50 billion annually to IFFs between 2000 and 2008 (Mbeki, 2015), which exceeds the total ODA granted to the continent over the same period.

Mirror trade estimates have depicted IFF volumes of over 4 per cent of the world's GDP and up to 6 per cent of Africa's GDP. These estimates have, however, been challenged with regard to their inaccurate aggregate trade data, questionable underlying assumptions and weak methodology (GFI, 2017). Mirror trade analysis typically assumes that trade data provided by customs authorities in developing countries is incorrect while that released by industrialised countries is accurate. This does not provide a rigorous basis on which to ascertain the magnitude of IFFs, particularly given that the data often fails to capture merchant trade, whereby commodities do not enter the customs territory of the trading partner, or product heterogeneity. Commodity traders and tax authorities have been quick in challenging the ensuing IFF guesstimates.

Price-filter methods provide an alternative approach that is being used ever more often in the academic literature. Price-filter analysis establishes a fair or 'normal' reference price range for product-specific transactions to identify those that appear abnormally underinvoiced or overvalued. It is possible to add additional layers of analysis to account for product heterogeneity, such as information on the purity grade of specific metals and minerals extracted from different mine sites. This allows analysis to capture the fact that unit prices within a product category such as unwrought gold doré may vary greatly for reasons such as differences in gold content, even if they are all recorded under the same customs category. Doré bars can indeed contain between 2 and 95 per cent pure gold, the balance being made up of silver, copper, other base and platinum group metals and impurities. Unwrought gold is then traded by intermediaries or directly transported by the mining companies to precious metals

refineries to be purified up to 99.99 per cent. Conducting detailed price-filter analysis often requires researchers obtaining access to confidential or proprietary data and signing confidentiality clauses. Besides, such data does not systematically report whether the trade transaction happens between related or unrelated parties—so, whether a given trade transaction involves abusive transfer pricing risks. Gaining insights from commodity traders as well as from tax and customs authorities in host and home states helps one more accurately evaluate the scale of commodity trade-related IFFs (see Carbonnier and Mehrotra in this volume for a detailed discussion on data and methods).

Beyond formal trade, commodities are often exported informally. Such transactions are not documented and they do not appear in export statistics. This holds particularly for gold mined by artisanal and small-scale producers, which are prevalent in at least 50 countries, but also for soft commodities like coffee in Laos. Typically, commodities are smuggled or otherwise illegally exported, or illegally produced commodities are legalised before/through formal export. Understanding the push and pull factors that incentivise informal trade, the mechanisms of such exports, the interfaces between the formal and informal realms and the actors facilitating these interfaces is a first step towards expanding the share of formally traded commodities (see Brugger, Proksik and Fischer, 2024; Brugger, Zongo and Proksik, 2024 for case studies on Bolivia, and Burkina Faso, respectively).

4 'Curbing IFFs in Commodity Trade': Research Project Set-Up and Findings

The collection of chapters that make up this thematic volume draws on a six-year research partnership that includes the disciplinary fields of economics, law and political science.⁶ Mixing theoretical inputs with country case studies, the research project covered a variety of topics that showcase the multifaceted dimensions and complexity of IFFs as a phenomenon and the need to carefully consider the interactions between various policy responses and practical recommendations.

While research in this area tends to adopt a mono- or bi-disciplinary approach to estimating the magnitude of IFFs and the effectiveness of policy responses thereto and assessing global tax governance reform and policy

6 The publications generated by this research project are available on the project website: <https://curbing-iffs.org/publications/> (accessed on 13 February 2024).

options open to LMICs, our research project provides an interdisciplinary perspective on IFFs, with a focus on trade in soft and hard commodities. Grasping the interactions between push and pull factors and the incidence of various incentives and obstacles associated with a variety of regulatory and policy frameworks has required collaborative efforts, including from the fields of law, economics and political economy analysis. It has also necessitated greater cross-sector engagement between scholars, policymakers, trade practitioners and civil society groups from various regions able to address the feasibility and effectiveness of various options in different institutional settings, such as a socialist state with a controlled economy like Laos or a market economy like Ghana.

4.1 *Analytical Frameworks*

A unifying analytical framework allowed for the bringing together of different disciplinary approaches. It consists of two perspectives. The first (Figure 1.1) focuses on how trade and taxation are governed at and between the global, regional and national levels. This system comprises international agreements and soft laws such as transfer pricing methodologies, most brokered by the OECD, bilateral treaties regulating mainly foreign direct investment, and national laws and regulations in home and host countries. Together, they build a regulatory patchwork with overlaps, ‘underlaps’, different, sometimes even contradictory, incentives, risks, and opportunities that invite treaty shopping and regulatory arbitrage between jurisdictions.

The second perspective focuses on the value chains of particular commodities in specific countries, from extraction to consumption via transformation and trade (Figures 1.2 to 1.5). These value chains are embedded in the regulatory architecture featured in the first perspective. The interpretation and implementation—or not—of the regulatory framework in time and space along a value chain determine real-world tax and IFF outcomes.

The operationalisation of the methodological framework builds on a joint actor mapping along the value chain, as illustrated in Figures 1.2 to 1.5. Starting from this collective exercise, political scientists focus on the interests and policy preferences of key actors along the value chain, asking who gets their interests represented in rule setting and the negotiation of regulations, who generates, administers and controls data, and who intervenes to influence or bend the rules or to promote or restrict data access.

Legal experts map the regulatory landscape and assess the scope, interactions and interdependence of and between the local, national, regional and global levels, and where they create synergies or open loopholes. Legal

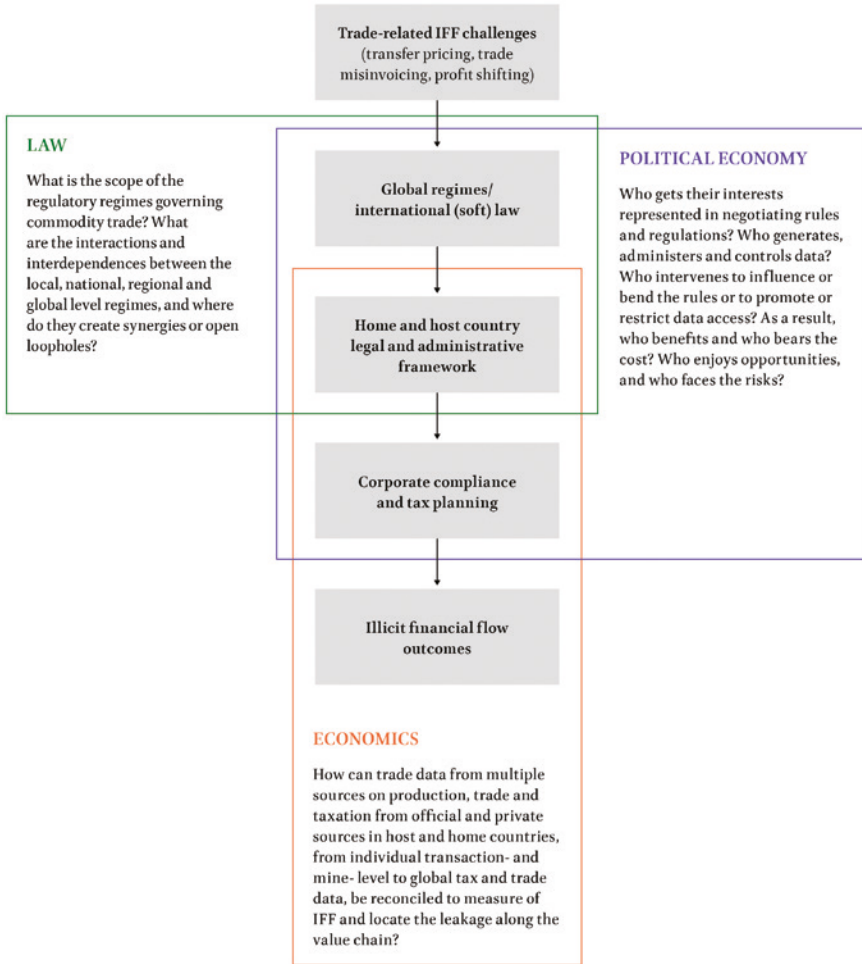


FIGURE 1.1 Conceptualising IFF push and pull factors and how they materialise in the commodity sector
SOURCE: THE AUTHORS

scholars also explore the existing policy space and evaluate as well as refine policy options in response to the weaknesses identified.

Economists use the analysis to identify, get access to and reconcile data from multiple sources on production, trade and taxation from both official and private sources in host and home countries, all the way from individual transaction- and mine-level data to global trade and financial data.

The cross-fertilisation between disciplines goes beyond the joint clarification and definition of IFF-related concepts and the complementary analysis

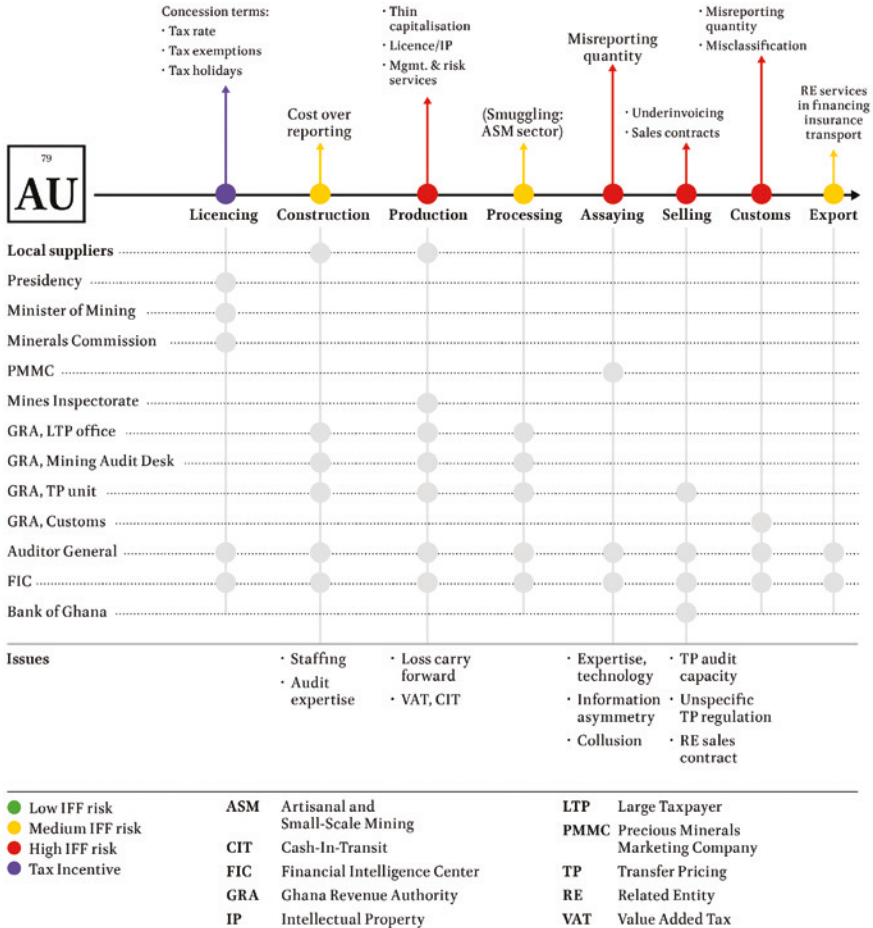
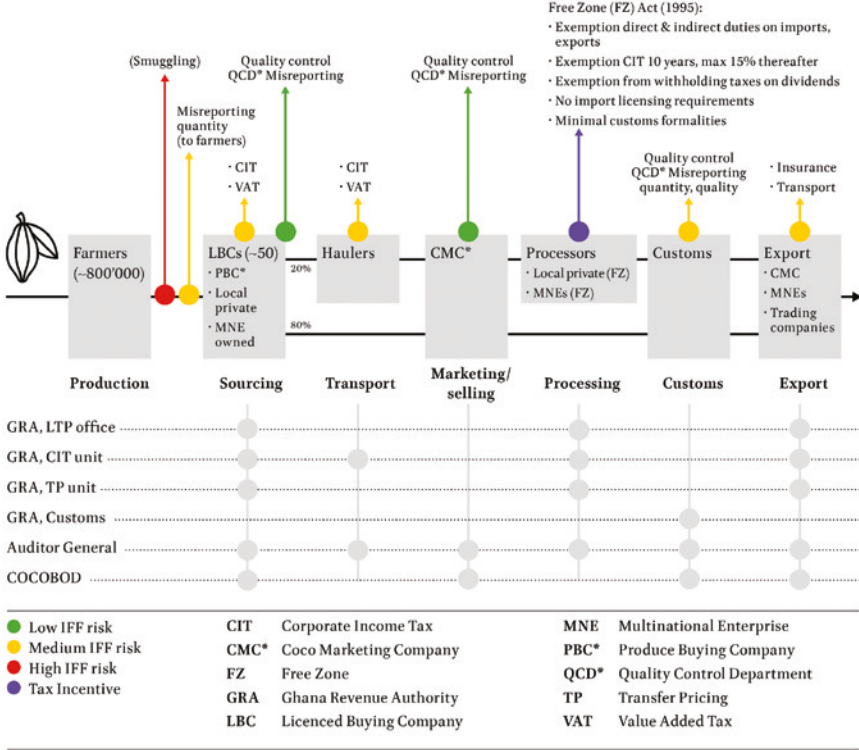


FIGURE 1.2 IFF risk analysis for the gold value chain in Ghana
SOURCE: THE AUTHORS

of the IFF phenomenon. Cross-fertilisation extends to the conceptual level, for example when economists borrow the ‘arm’s-length’ idea from tax law to develop the ‘fair price range’ concept for measuring IFFs. The transdisciplinary approach also advances the policy relevance of our research, for example when political scientists take the legal analysis of policy options (Musselli and Bürgi Bonanomi, 2021) and test, through a Q-study, “the policy space available for curbing IFFs” (Brugger and Proksik, this volume).

This last example also adds value to the heated debate over which policies are effective and should be pursued, a debate that slows down the progress of reform. Targeted transparency policies—that is, measures to improve access to



*COCOBOD subsidiary company

FIGURE 1.3 IFF risk analysis for the cocoa value chain in Ghana
SOURCE: THE AUTHORS

actionable information for tax authorities—find the strongest support across stakeholder groups. The strongest disagreement, meanwhile, is over whether low-income countries should take unilateral measures to curb IFFs. The parallel process leading towards a UN-based tax convention suggests that industrialised countries will benefit from shifting their policy stance from resistance towards more equal cooperation models. The case of the loosening up banking secrecy in Switzerland in 2017 suggests that such changes need not just be a losing or a zero-sum game, but can open new opportunities, even more so when policymakers anticipate them in a timely manner.

4.2 *Specific Findings and Policy Recommendations for Home and Host States*

Policy responses aimed at curbing cross-border profit shifting vary across governance levels and time: some can be implemented in the short run and

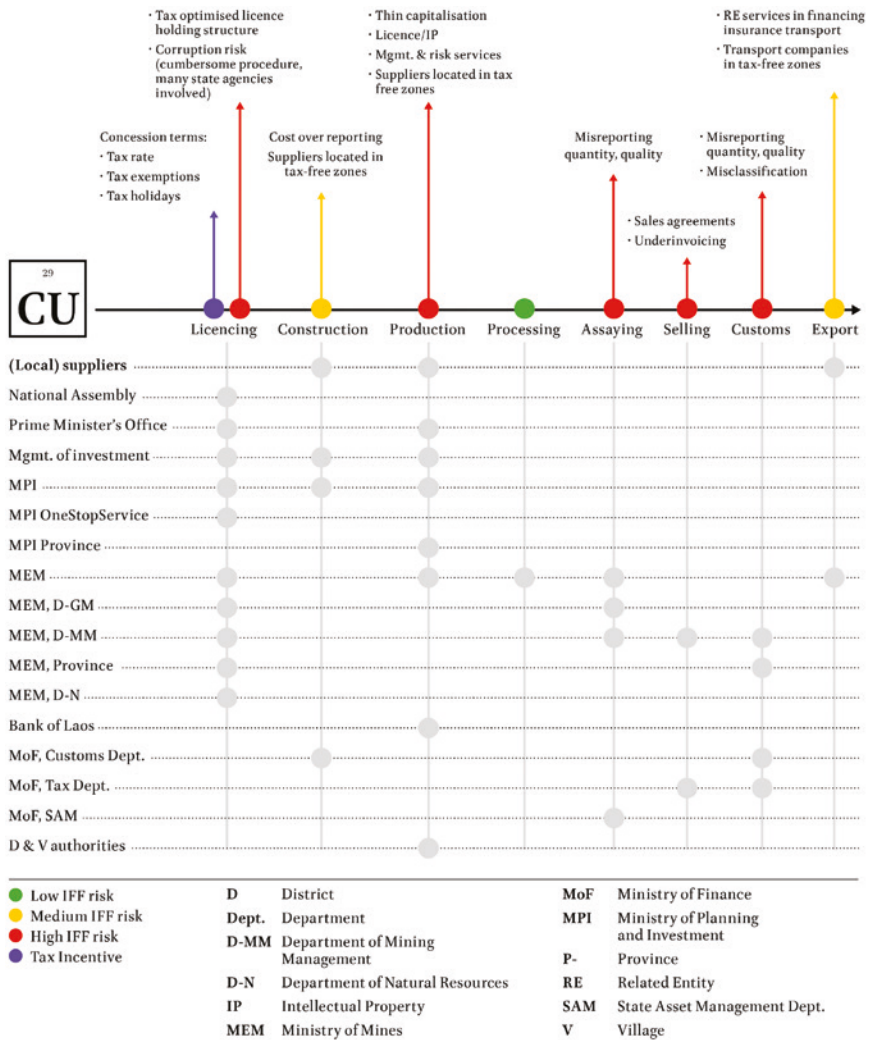


FIGURE 1.4 IFF risk analysis for the copper value chain in Laos
SOURCE: THE AUTHORS

seem to enjoy broad support in theory, such as improving data access and transparency. Other steps require deeper transformation and international cooperation, such as reforming the global corporate tax governance system as highlighted above. Several policy responses and technical fixes can be enacted individually by host and home countries, within limits set under international law as well as resource and capacity constraints.

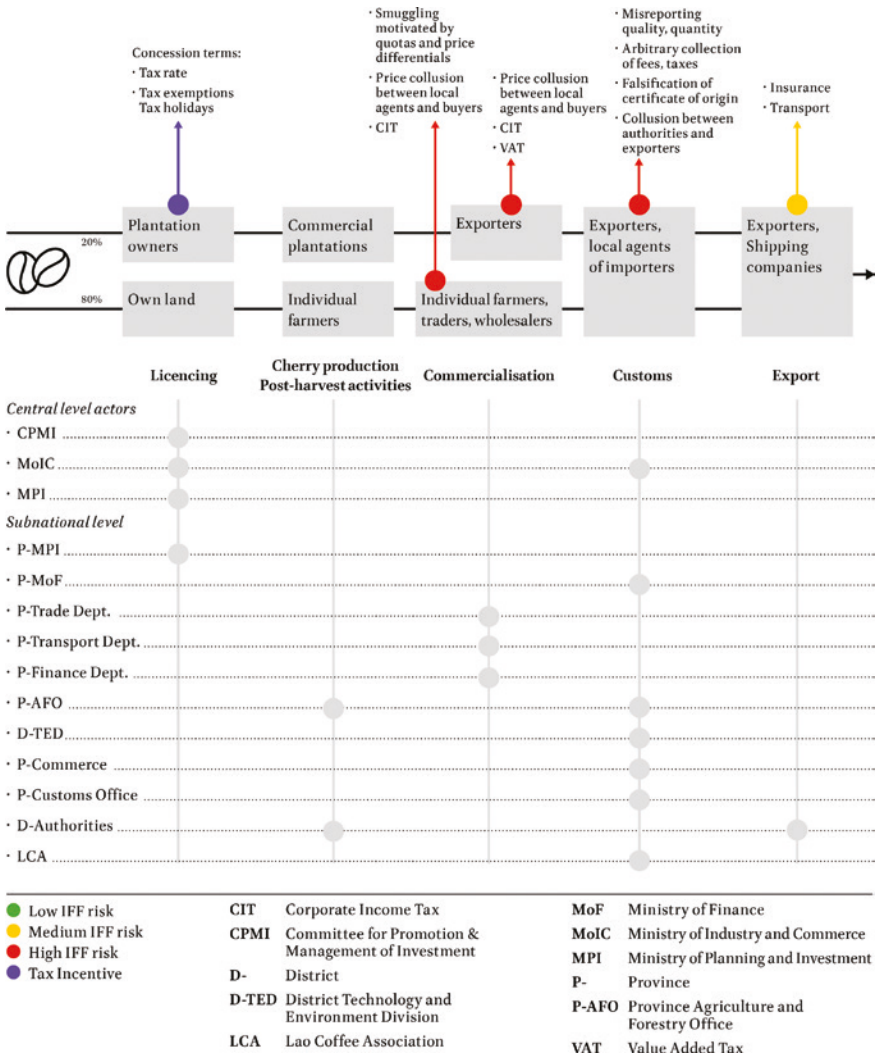


FIGURE 1.5 IFF risk analysis for the coffee value chains in Laos

SOURCE: THE AUTHORS

Beyond the international tax governance reforms referred to above, it is indeed crucial to look at policy responses and innovations that can be implemented *on an autonomous basis by host and home countries*. ‘Home’ refers to states where multinational companies are headquartered whereas ‘host’ refers to those in which foreign firms are producing or from which they are procuring commodities. Tax lawyers refer to them as ‘residence’ and ‘source’ states,

respectively—being aware that value chains are generally complex and that ‘home’ may also refer to the state in which subsidiaries are active.

4.2.1 Recommendations for Host States

In the research project, legal scholars from Switzerland, Ghana and Laos—jointly with the entire team—have identified a range of policy instruments with which *commodity-producing countries* may counter the mispricing of their commodity exports (see Musselli, Bürgi Bonanomi and Lannen, 2021; Musselli and Bürgi Bonanomi, 2021). Of particular importance are measures that can be taken relatively quickly. Based on a broad literature review and interaction with our Southern partners, the following approaches merit particular emphasis:

Technology-driven innovations to customs law enforcement:

- *Automated data matching* to prevent trade fraud. For example, commodity export documents can be systematically matched with import documents to uncover inconsistencies between recorded sale and purchase prices. Likewise, customs forms could be cross-checked with income tax returns filed by buyers in importing countries to check for potential discrepancies. Standardisation across jurisdictions will be required.
- *Improving the valuation of minerals*, whereby low-income countries could contractually require mining companies or commodity buyers to pay for pre-shipment inspection for quality, quantity and price or levy a fixed annual fee for independent quality inspection.
- *Use of ‘smart’ technologies* to detect meddling with physical commodities or documentation in transit: *electronic seals* to replace single-use mechanical seals on cargo containers, *smart containers* equipped with tracking devices and sensors, *fixed scanners* to support customs clearance by scanning containers faster and more systematically and *blockchain technology* to provide an unalterable record of commodity transactions.

Prescriptive approaches to taxation, respectively simplified transfer pricing methods to taxation, are important alternatives to consider for low-income countries with limited resources to acquire the technology and capacities to administer transfer-price and trade-invoicing controls. Our South–North research enabled us to develop and test innovative legal responses such as prescriptive approaches adapted to differing contexts, and several approaches can be applied to deter price manipulation:

- The so-called *sixth method* has been applied, for example, in Zambia, whereby mining companies are required to use publicly quoted benchmark prices as a basis upon which to determine the transfer price of mineral commodities.
- *Administered pricing*, whereby a trusted committee of experts mandated by the government—instead of by the companies concerned—can directly establish the value of commodity-related transactions for tax purposes. Norway uses such an approach for its oil exports.
- *Referencing in contracts*, whereby countries can mandate the use of relevant reference prices or price formulas directly in commodity sales contracts. Alternatively, exporting countries can apply *fixed profit margins and markups* to certain types of transactions or specific lines of business. As applied under Brazil's transfer pricing law, the accepted arm's-length price for commodity exports between related parties is the resale price in the destination country minus a fixed profit margin.
- *Restricting deductible taxpayer costs*, for example regarding interest and royalties paid by local mining companies to offshore entities, so as to preserve the tax base of the countries from which commodities are actually sourced.

Such prescriptive methods offer practical means of countering trade mispricing and profit shifting. Challenging the argument that prescriptive pricing methods would per se breach international trade and tax rules, we have instead argued that there is legal scope for prescriptive pricing methods under international economic law (Figure 1.6).⁷

4.2.2 Recommendations for Home States

Home country responses are equally important. For instance, the Swiss commodity trading industry and its regulatory environment has come under increasing scrutiny after revelations from the so-called Paradise Papers pointing to opaque commodity deals. This raises the matter of home countries' responsibilities to enhance transparency in commodity trading and establish an adequate legal framework to prevent IFFs.

Short-to-medium-term home country responses include increasing the transparency of relevant trade and tax data and enhancing information exchange with low-income countries.

⁷ Drawing on market theory, we argue for a hybrid form of market-based price regulation and public-private models of supply chain governance (Musselli and Bürgi Bonanomi, 2022).

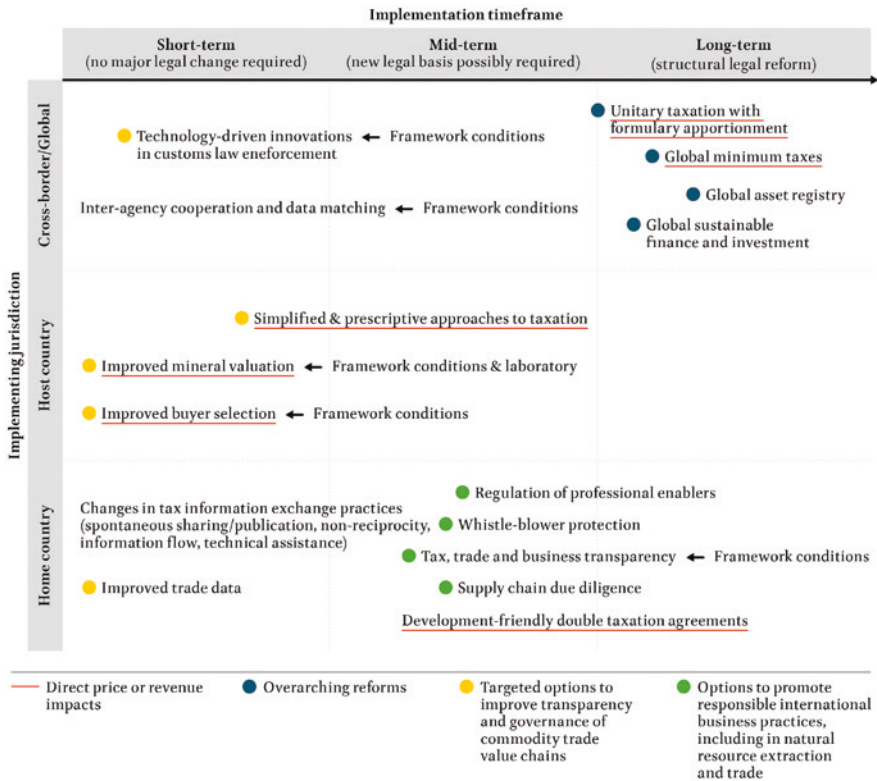


FIGURE 1.6 Implementation time frame and jurisdictions
 SOURCE: MUSSELLI AND BÜRGI BONANOMI (2021)

- *Trade transparency at a disaggregate level* is a precondition for both rigorous academic research into and informed public debate about trade-related IFFs, their magnitude and the effectiveness of various policy responses. Product categories under the Harmonized System (HS) managed by the World Customs Organization should be specific enough to reduce product heterogeneity within the same 6-digit HS tariff line such as in the case of unwrought gold raised earlier.

CARBONNIER and MEHROTRA, 2024

- *Tax transparency regarding business structures and payment contracts.* Despite a sophisticated framework of exchange of information in tax matters in Switzerland for example, a variety of procedural rules and principles limit the use of exchange-of-information mechanisms for investigating commodity trade mispricing:

Among the many hurdles, the information exchanged may only be used for the purpose for which it is intended in the exchange agreement, which is often confined to the assessment of income and capital taxation, not customs duties; stringent rules constrain the flow of information between tax, customs, and other administrative units.

MUSSELLI and BÜRGI BONANOMI, 2018, 11

Supporting the flow of information between tax and customs units in the partner country and making greater use of country-by-country reports can bring improvement. Switzerland could also renounce reciprocity requirements, and use the data generated through exchange procedures for measuring progress in achieving SDG Target 16.4—dealing with IFFs.

- Applying corporate criminal offence regulation in cases of facilitation of tax evasion and extending anti-money laundering regulation to non-financial service providers such as legal consultants, with the introduction of penalties for enablers of aggressive tax avoidance schemes. Such enablers involve tax lawyers, accountants, fiduciaries, notaries and other service providers benefitting financially from designing, marketing or otherwise facilitating cross-border tax avoidance or evasion schemes. Greater international cooperation in cross-border tax matters in this regard is important, together with mandatory disclosure of such schemes.

MUSSELLI and BÜRGI BONANOMI, 2021

Research carried out specifically in Laos on mineral and agricultural exports included a study on the legal environment required to address trade-related IFFs and trade mispricing in the Association of Southeast Asian Nations (ASEAN) and its member states. Findings confirmed the validity of the recommendations outlined above regarding the strengthening of the legal framework and enforcement mechanisms. They also pointed to the adoption of international best practices. Collaboration across government agencies is required to ensure effective information exchange with trading partners, to carry out audits, and to facilitate technology-driven data analysis with a view to identifying and reining in potential tax evasion, tax avoidance and abusive transfer pricing. In parallel, capacity building is essential to efforts to strengthen the expertise of customs, tax, and trade officials in natural resource exports, price hedging and commodity valuation (see Sisouphanthong et al., this volume).

The research process conducted in Ghana uncovered mixed preferences and responses from policymakers and practitioners. Engagement with the Customs

Division of the Ghana Revenue Authority at the beginning of the study produced evidence on trade mispricing that has an immediate impact on improving data collection and the implementation of procedures to ensure more stringent verification of data provided by business entities. Feedback from our Ghanaian research team strengthened the understanding of the relevant authorities regarding the negative impact of remaining loopholes on identifying trade mispricing and reducing the ensuing IFF risks. Engaging with the relevant stakeholders in Ghana throughout the six-year research project has also led extractive industry officials and national statistical and tax authorities to cooperate with a view to enhancing the reliability and accuracy of data collection systems. That said, some actors expressed strong disagreement or outright opposition to our research work. This was the case for the revenue authorities and mining industry umbrella groups, who were concerned that study findings would give them bad publicity, particularly during media engagements. An important lesson learned was the need for even closer engagement with national tax and revenue authorities and the extractive sector for knowledge sharing to minimise some of the antagonism towards the domestic dissemination of research results.

4.3 *Implications for Future Research*

Six-years of North–South research has confirmed the importance of involving research institutions as well as the relevant governmental agencies in commodity-dependent developing countries from the outset. This is key to helping strengthen domestic capabilities to identify and effectively address IFFs from a host state perspective, including the testing and implementation of home-grown solutions.

Informing the public policy debate in Ghana, Laos and Switzerland and globally proved useful, including in promoting greater transparency and access to relevant data. Broader informed public debate can play an important role in heightening that momentum. Greater engagement across disciplines, in particular between tax lawyers and social scientists, has proved useful in capturing the political feasibility of and specific obstacles related to policy and regulatory options in specific legal domains and jurisdictions.

With ‘sustainable finance’ and investment expected to play a greater role in climate change mitigation and adaptation, the energy transition, and biodiversity conservation, a research agenda is needed to understand the potential for new IFF risks. Studying linkages between the IFF/tax justice and climate change agendas, investment law, nature conservation and sustainable finance can help further delineate the legal contours of ‘sustainable finance’ (Schäli and Bürgi Bonanomi, 2023).

Last but not least, the availability of reliable, accurate and granular commodity trade data and current, insufficient levels of transparency must be addressed as a matter of priority (see the next chapter in this volume). Clarifying the grey zone in which transfer pricing and tax optimisation practices reach the threshold of an IFF is necessary if we are to build consensus on assessing the magnitude of trade-related IFFs and the effectiveness of IFF-cutting measures, on looking at the impact of different policy measures, such as administered prices, adopted unilaterally by countries like Brazil and Zambia, or on the effects of the multilateral BEPS process over time.

5 Introducing the Thematic Volume

The variety of contributions in this thematic volume offers a mix of theoretical and empirical inputs and findings and recommendations drawn from macro- and micro-level analysis. It provides novel insights on issues such as the preferences of key stakeholders for short- and longer-term policy reforms, arbitral tax claims arising from prescriptive trade pricing approaches, and Ghana's recent gold-for-oil barter arrangement and ongoing efforts to address trade mispricing in Laos. With the exception of a chapter on metals streaming and royalty financing, this volume does not focus on contractual arrangements between extractive industries and states but on other commodity trade-related issues that have an incidence on the mobilisation of domestic resources for development.

The thematic volume is structured in four parts: Following this introductory chapter, Section 2 deals with the definition, measurement and drivers of IFFs. Section 3 turns to policy responses across space and time. The last contribution dwells on the urgency of strengthening host country fair taxation capacities in the face of a looming rush on the commodities required to power the energy transition.

Section 2 provides a framework for understanding and measuring commodity trade-related IFFs. Carbonnier and Mehrotra first present and discuss new data sources in conjunction with specific methodological approaches to rigorously capturing IFFs. The authors then make recommendations on how to improve access to the relevant and accurate data required to assess IFF volumes and evaluate the effectiveness and side-effects of various policy approaches to reducing these volumes. The subsequent chapter, by Sisouphanthong et al., examines the root causes and the volume of trade-related IFFs in Southeast Asia, providing evidence from soft and extractive commodities exported by Laos. The remaining two chapters in the section provide novel insights into

commodity trade-related IFF channels associated with various investment regimes and contractual arrangements:

- Omonbude reveals how metals streaming and royalty financing aimed at securing stable government revenue may end up depriving producer states of the full benefits of commodity sales, and recommends states address the stark information asymmetry between themselves, the mining industries, and royalty companies.
- Von Haldenwang et al. provide a fresh look at the impact of tax expenditures granted to corporations in the context of foreign direct investments in special economic zones (SEZs) on eroding the tax base of commodity exporting nations, as well as at the role of the patent box and other instruments aimed at attracting intangible assets in home countries (where multinational companies are headquartered).

Section 3 turns to policy responses, starting with an original Q-study by Brugger and Proksik on preferences for and the political feasibility of various policy responses and their implications in terms of the legal space that host states in particular can preserve in order to adopt policies of their own to effectively curb trade-related IFFs. Musselli and Mariottini De Oliveira then examine the feasibility of introducing prescriptive taxation methods with due regard to legal obligations accruing from international rules and principles as laid down in international investment regimes. Noting that these regimes can indeed limit the policy space for commodity exporting countries, the authors discuss the perceived risk of legal liabilities and investor claims. This risk may act as a significant uncertainty factor in the adoption of pragmatic approaches to combatting trade mispricing. The chapter addresses the legal aspects of ‘prescriptive’ pricing methods seen against the parameters of international investment law and also offers defence arguments that states can mobilise to justify such choices (see also von Haldenwang et al., this volume; Viñuales, 2015).

The next two chapters in Section 3 look at the impact of recent policy innovations in Latin America and Africa:

- Campodonico evaluates the impact of recent tax reforms in Chile, Colombia and Peru, looking too at the roles of various actors involved in the global competition for energy security and access to the critical minerals fuelling the energy transition.
- Dzanku et al. reveal the risk of renewed IFFs associated with a novel barter trade arrangement introduced in Ghana under a gold-for-oil transaction deal, combining analysis from economic, legal, and political economy perspectives.

The final section of this thematic volume concludes with a call to strengthen host state capacities to effectively curb IFFs at a critical juncture when a renewed rush on commodities to power the energy transition is leading to both great opportunities and great risks in view of mobilising domestic resources to pay for the SDGs. The author, LeBillon, provides practical recommendations.

It is our hope that this thematic volume of *International Development Policy* will contribute to advancing scholarly and policy debates on trade-related IFFs and to redressing a long dysfunctional taxation system.

6 Concluding Reflections

Reverting to the words of the Swiss parliamentarian that opened this chapter, arguing that individual host states such as Ghana have to tackle the issue of IFFs leaving their countries and the ensuing tax base erosion, our findings above confirm that this is only part of the solution. Several policy and regulatory reforms, together with capacity building and technological innovations, can help commodity-dependent countries curb trade-related IFFs. But this is not enough. Specific pull factors must be addressed in home countries as well as in major trading hubs, as detailed above. At the same time, global governance and taxation reform must preserve the policy space in which host countries can enact home-grown reforms aligned with local realities and the institutional capacity to implement them.

At the regional and global levels, there is a need for *greater international cooperation* between relevant authorities, including customs and tax or revenue agencies, in parallel with the strengthening of global tax governance frameworks. Yet trust in multilateralism is at a historical low. While double standards and unmet promises have been eroding trust and increasing North–South polarisation, South–South cooperation has intensified in a range of domains including in climate and taxation matters, and countries are pushing their demands with greater voice. In November 2023, 125 countries supported a Nigeria-led proposal to shift global tax governance from the OECD to the UN, and it was hailed as a victory in the decades-long fight of developing countries for fairer tax rules globally.

In a sense, IFF issues are at the heart of heightened North–South tensions and of the decolonisation agenda, to the extent that a fair and equitable global tax system would contribute to allowing developing states to mobilise the domestic resources needed for development. This is a critical part of a broader agenda to restore trust in the multilateral system.

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PART 2

*Definition, Measurement, and
Drivers of Trade-Related IFFs*



Measuring Illicit Financial Flows: New Data and Methods

Gilles Carbonnier and Rahul Mehrotra

Abstract

A major source of illicit financial flows (IFFs) out of developing countries accrues from the under-invoicing of commodity exports. This erodes the tax base of resource-rich developing countries, and hence their capacity to mobilise domestic resources for development. The Sustainable Development Goals (SDGs), adopted in 2015, specifically call on states to reduce IFFs and enhance domestic resource mobilisation. Yet a weak capacity to assess the magnitude and drivers of the phenomenon has limited the ability of developing countries to effectively curb IFFs. This has been compounded by a lack of consensus over IFF definitions together with poor data and weak methods. Drawing on six years of interdisciplinary research into commodity trade-related IFFs, this chapter examines novel data sources and recent methodological advances that researchers and regulators can draw upon to better capture and eventually reduce IFFs. It situates such advances within the fast-expanding literature on domestic resource mobilisation, taxation and IFFs, focusing on three major channels; namely, trade mispricing, abusive transfer pricing and tax evasion through wealth offshoring. The chapter concludes by discussing the scope for improved data collection and evidence generation. This, together with global taxation reform, can greatly contribute to effectively enhancing domestic resource mobilisation in developing countries.

1 Introduction

Trillions of dollars are urgently needed to preserve global public goods and address the global challenges of our times, not least in relation to climate change and nature conservation. Official development assistance (ODA) and climate finance remain marginal, covering only a tiny fraction of funding needs. Developing countries must thus significantly enhance domestic revenue mobilisation whereby tax-to-GDP ratios typically range between 10 and 15 per cent, which is significantly lower than in advanced economies (30 per cent and above). An additional challenge is that public finance has come under

renewed strain across the global South following the COVID-19 pandemic and the disruption of global food and energy markets following the escalation of the armed conflict between the Russian Federation and Ukraine.

In this context, illicit financial flows (IFFs) have been highlighted as a significant challenge hampering domestic revenue mobilisation in lower- and middle-income countries (LMICs). A rapidly expanding literature has sought to better understand and measure IFFs. This chapter focuses on the three channels that stand out as major IFF conduits: trade mispricing, abusive transfer pricing (between related business entities) and tax evasion and avoidance involving tax havens and offshore financial centres that attract wealthy individuals and multinational firms (Alstadsæter, Johannesen and Zucman, 2019; Andersen et al., 2017; Fisman, Moustakerski and Wei, 2008; Fisman and Wei, 2004; Johannesen, 2014; Ndikumana, Boyce and Ndiaye, 2015; Zucman, 2014).

The term IFFs refers to cross-border financial flows whose origin, transfer, and/or end use violate the letter—and many would argue also the spirit—of the law. They may include firms shifting taxable earnings from higher-tax to low-tax jurisdictions, or individuals hiding wealth in offshore financial centres. Regarding the latter, estimates based on macroeconomic statistics made available by the mid-2010s—including bilateral banking data released by the Bank for International Settlements (BIS)—hinted at the equivalent of 10 per cent of the world's GDP being held by individuals in tax havens (Alstadsæter, Johannesen and Zucman, 2018). The introduction of the automatic exchange of bank information by the mid-2010s has been found to have significantly contributed to reducing offshore tax evasion. While overall financial wealth held offshore remained relatively stable between 2013 and 2022, varying between 10 and 14 per cent of the world's GDP (about USD 12 trillion was reported in 2021), the share of undeclared wealth was reduced significantly, from some 90 per cent of the wealth held offshore prior to the 2010s to slightly above a quarter of the total amount by 2022 (following a 'central scenario'; see EU Tax Observatory, 2023, 27–30).

Trade-related IFFs have been singled out as a major source of tax base erosion in commodity-dependent countries, weakening their ability to mobilise domestic resources for development (Carbonnier and Mehrotra, 2018; OECD, 2014; Reuter, 2012). Rigorous estimates of the magnitude of trade-related IFFs have been constrained by a lack of reliable, disaggregated data and by methodological weaknesses. For instance, estimating trade mispricing through asymmetries in aggregate mirror-trade statistics has long been standard practice despite serious flaws highlighted in the literature (Carbonnier and Zweynert de Cadena, 2015). The ensuing guesstimates have been challenged by business

and governmental actors, giving rise to inconclusive debates between policy-makers, civil society and business advocates.

To address such deficiencies, researchers have increasingly drawn on disaggregated, transaction-level customs microdata, as well as on tax records and business registries that provide detailed, sector-specific information on production quantity, quality and market prices for specific goods and commodities (see, e.g., Cristea and Nguyen, 2016; Fuest, Hugger and Neumeier, 2021; Liu, Schmidt-Eisenlohr and Guo, 2020; Vicard, 2015). It has been recognised that better data and stronger methods are needed to elevate policy debates and sharpen advocacy campaigns aimed at improving global tax governance and enhancing domestic resource mobilisation (GFI, 2017; UN, 2020).

Tax differentials have been highlighted as a driver of abnormal trade pricing in that a one-percentage-point increase in this tax rate differential leads to a 0.27 per cent to 0.32 per cent increase in abnormal pricing in the case of commodity imports in Switzerland (Carbonnier and Marur, 2024). Researchers using new databases covering the activities of multinational firms have found that a 1 percentage point increase in the average corporate tax rate (CTR) applied to subsidiaries abroad is associated with an average drop in reported profits of 0.8–1.0 per cent (Heckemeyer and Overesch, 2017). Such findings hint at profit shifting, reinforcing the need to identify and close loopholes in the global tax system. Specific anti-IFF measures have proved effective in reducing tax evasion in the case of high-income countries (Pomeranz, 2015; Luttmer and Singhal, 2014; Keen and Slemrod, 2016). Additional evidence is required on what works in LMICs.

The EU Tax Observatory estimates, in its 2024 report, that about a trillion US dollars of corporate profits were shifted to tax havens in 2022, the equivalent of a third of total corporate profits earned by multinational companies abroad. The revenue losses for states amount to some 10 per cent of global corporate tax revenues (EU Tax Observatory, 2023, 37–42). Contrary to what happened when the automatic exchange of banking information on undeclared wealth offshore was introduced, it seems that the base erosion and profit shifting (BEPS) process launched in 2015 has had no significant discernible impact globally to date. This confirms that corporate profit shifting remains a major issue for domestic revenue mobilisation and deserves greater scrutiny.

Drawing on economics, law and political science, this chapter focuses first on new data sources and methods to measure IFFs. It then turns to the implications for policymakers and regulators in developing countries as well as in major global trading and financial hubs, identifying research and data gaps in the rigorous capture of IFF volumes. The chapter discusses selected policy and regulatory measures to reduce such flows, and draws on contributions from a

North–South interdisciplinary research consortium that has researched commodity trade–related IFFs over the past six years (see chapter 1, this volume). We situate these contributions in the broader literature on trade and transfer mispricing by corporate actors, as well as on tax evasion and capital flight.

2 Evolving IFF Definitions

SDG Target 16.4.1 sets the objective of significantly reducing IFFs by 2030. The aim of establishing indicators to track progress has spurred a vivid debate on the definition and measurement of IFFs. Conceptually, the IFF literature distinguishes between narrowly defined illegal activities commonly agreed to constitute IFFs and legal but normatively reprehensible activities. This can, for example, be illustrated by how we differentiate between illegal tax evasion and legal, but socially harmful, tax avoidance. Recent regulatory advances related to transfer-pricing rules and general anti-avoidance regulations are blurring these boundaries, with implications for both the measurement of IFFs and effective policy approaches. Properly defining IFFs has a bearing on accurately capturing the magnitude of such flows and devising effective policy and regulatory responses. Table 2.1 lists IFF definitions from a variety of stakeholders in chronologic order. A majority of these definitions refer to IFFs as cross-border flows of funds whose origin, transfer or use violates relevant legislation.

Other organisations and researchers have used similar definitions, converging around the notion of cross-border financial transfers involving illegal activity yet debating the extent to which illicit activities should be included. For example, Forstater (2017) distinguishes between (i) a ‘narrow’ definition, whereby IFFs are directly generated by illegal activities such as money laundering, drug trafficking, bribery, terrorism finance, misreporting of international transactions to evade taxes, and capital flight in contravention of capital controls, and (ii) a wider definition, which is not limited to illegality but includes ‘illicit’ flows that result from legal activities—until successfully challenged by relevant authorities—such as aggressive tax avoidance, abusive transfer pricing and profit shifting or thin capitalisation. Eriksson (2017) adds other points of contention: (i) the precise scope of transfers, considering selected or any assets with a financial value, (ii) assessing the legality of the origin, the international transfer method, or the final use of funds, and (iii) the legal references to domestic or international legal instruments (which may not have been ratified in particular jurisdictions), or additional widely accepted normative principles and standards.

TABLE 2.1 Illicit financial flows as defined by various stakeholders

Source	Definition
OECD (2014, 16)	IFFs include flows 'generated by methods, practices and crimes aiming to transfer financial capital out of a country in contravention of national or international laws'.
High Level Panel on Illicit Financial Flows from Africa (2015, 9)	'Money that is illegally earned, transferred, or utilized. These funds typically originate from three sources: commercial tax evasion, trade misinvoicing, and abusive transfer pricing; criminal activities, including the drug trade, human trafficking, illegal arms dealing, and smuggling of contraband; and bribery and theft by corrupt government officials.'
World Bank (2016, 2)	'Money illegally earned, transferred, or used that crosses borders.'
Global Financial Integrity (GFI, 2017, 1)	'Illegal movements of money or capital from one country to another', or, in other words, funds crossing an international border that are illegally earned, transferred, and/or utilised.
Picciotto (2018, 1), for the Tax Justice Network	'[Components of IFFs] include: the concealment of the proceeds of crime or corruption; tax evasion; tax avoidance and tax planning; hiding wealth from public agencies, business associates, or family members.'
International Monetary Fund (IMF, 2020)	'The movement of money across borders that is illegal in its source, its transfer, or its use.'

SOURCE: THE AUTHORS (SEE TABLE FOR FURTHER INFORMATION)

Musselli and Bürgi Bonanomi (2020) note that the reach of the law is being gradually extended into the area of tax avoidance, blurring the lines that separate it from illegal tax evasion. Two developments are worth highlighting in

this respect: the enactment of specifically targeted anti-avoidance legislation, and the introduction of general anti-abuse rules (GAARS). Several countries have introduced specific legislation to close regulatory loopholes that provide multinational firms with opportunities for regulatory arbitrage, as in the case of abusive transfer pricing, which includes thin capitalisation, interest deductibility and controlled foreign company rules, etc. Going a step further, several advanced economies have enacted or are considering more stringent measures, typically in the form of GAARS to rein in financial transactions designed

TABLE 2.2 Illicit financial flows definitions: Legal implications and measurement challenges

Illustration 1: Is abusive transfer pricing included in IFFS?

Developing countries such as Laos lack appropriate regulatory frameworks to govern the taxation of multinational firms. As a result, abusive transfer pricing does not formally violate the law. Such countries need to adopt and implement up-to-date transfer-pricing methods, interest deductibility and thin capitalisation rules, controlled foreign company rules, and anti-hybrid rules, as well as double taxation agreements, all to address abusive transfer pricing. Yet under a broad definition of IFFS, even if no law is being violated abusive transfer pricing is deemed normatively unacceptable and therefore falls into the category of IFFS (Musselli and Bürgi Bonanomi, 2020).

Illustration 2: How do GAARS influence IFFS?

As more countries regulate tax avoidance, the distinction between tax evasion and aggressive tax avoidance is increasing being blurred. In this context, GAARS are considered provisions of last resort, to be invoked by tax authorities in the case of tax avoidance practices that otherwise comply with the terms and statutory interpretation of ordinary tax law. Arrangements that satisfy the relevant provisions of a given tax code yet simultaneously undermine its intention are potential targets for GAARS, allowing tax administrations to make the case that specific tax avoidance practices must be punished. New evidence indicates that the adoption of GAARS is associated with an economically significant reduction in tax avoidance in OECD countries (Cowx and Kerr, 2023).

SOURCE: THE AUTHORS (SEE TABLE FOR FURTHER INFORMATION)

to avoid tax (Musselli and Bürgi Bonanomi, 2020). Table 2.2 illustrates how evolving legal frameworks influence definitions of IFFs, which in turn influence the type of data and methods required to measure IFFs.

3 New Data and Methods

Different empirical approaches and data sources have been used to estimate the magnitude of IFFs in the form of trade-related flows, profit shifting, and wealth offshoring. The most robust of these methods require accessing both governmental databases that are often not readily available to researchers and detailed transaction- and firm-level data, which is often proprietary and equally difficult to obtain, although access may be secured through ad hoc arrangements involving confidentiality agreement or hefty payments.

3.1 *Trade-Based IFFs*

The term trade-based IFFs refers to misinvoicing that occurs when importers and exporters manipulate shipment values on customs invoices in order to transfer financial capital abroad for private gain or to reduce corporate tax liabilities and customs duties. Abusive transfer pricing occurs when such mispriced transactions are recorded between affiliates of the same multinational group. As highlighted in Table 2.1, the mispricing of international trade transactions has been identified as a prominent channel for IFFs, be it between unrelated or related (arm's-length) firms. Developing countries are especially at risk due to limited administrative and oversight capacities.

There is a whole range of specific challenges related to poor data when measuring trade-based IFFs (Carbonnier and Mehrotra, 2024). The latter requires considering both IFF definitions and assumptions about the true value or fair price for each transaction, with due regard to the quantity and quality of the good and/or service being traded. A limiting factor here is that the heterogeneity of traded goods cannot be fully captured by broad customs classifications, be it those of the Harmonized Commodity Description and Coding System (HS), the North American Industry Classification System (NAICS) or the Standard International Trade Classification (SITC). As a result, generating the relevant data to estimate trade-based IFFs is often an intensive undertaking that combines multidisciplinary insights to capture both the specific features of traded goods, thus ensuing fair price ranges, and whether trading partners are related or unrelated.

Early attempts in this area focused on mirror-trade statistics—that is to say, asymmetries in matched, partner trade statistics, or price anomalies in transaction-level data. Bhagwati (1964; 1967) and Bhagwati, Krueger and Wibulswasdi (1974) provided the first analysis, based on partner-country trade. This methodology is based on the principle of double counting in international trade, whereby the exporting country's statistics are compared to the importing partner's corresponding customs data—hence, mirror statistics. Economists have assumed that advanced countries' trade statistics are reliable and that any unexplained asymmetries are an indication of developing countries' statistical weaknesses or of trade-based IFFs. Estimates based on mirror trade have been dismissed as inaccurate, and it has been argued that they provide bloated IFF data given that they do not account for multiple legitimate drivers of asymmetries, such as *entrepôt* trade, shipping costs, etc. (De Wulf, 1981; Reuter, 2012; Hong, Pak and Pak, 2014; Nitsch, 2016; Hong and Pak, 2017).

Price filter analysis emerged as an alternative method and relies on a single country's transaction-level trade data to identify a unit price range of normally priced transactions for a specific good over a given time period. Many studies have used the price filter methodology, analysing millions of import and export transactions to estimate the extent of trade mispricing (e.g. de Boyrie, Pak and Zdanowicz, 2005; Cathey, Hong and Pak, 2017; Pak, Zanakis and Zdanowicz, 2003; Hong, Pak and Pak, 2014). A weakness of price filter analysis is that 'normal price ranges' do not adequately account for product heterogeneity. Taking the example of gold, varying levels of gold content, ranging from 2 per cent to over 90 per cent, fall under the same HS customs category, while the ensuing normal or fair price should vary greatly according to the gold's purity level. One way of addressing this has been to consider the average gold content of shipments at the mine-site level (Carbonnier and Mehrotra, 2018).

Most of the recent empirical literature relies on limited-access administrative microdata at the firm-transaction level to address such limitations. Confidentiality requirements often bind researchers who are using such data when it is sold by commercial actors or shared by public authorities. Such data includes:

1. *Customs microdata* systematically recorded by customs authorities based on mandatory shipping declarations submitted by importers and exporters. The data is collected for the purposes of tariff duties, statistical reporting and tax or transfer-pricing audits. Such confidential data can be made available to researchers with a view to identifying and measuring abnormally priced transactions.

Example 1—The United States

The US Longitudinal Firm Trade Transaction Database (LFTTD) links individual trade transactions to firms, thereby enabling research on abusive transfer pricing in international trade by US-based multinational firms. This data set has two components:

- It includes all US transaction-level trade data, including product classification, value, quantity, shipment date, destination (or source), transport mode and, crucially, whether the transaction takes place at ‘arm’s length’ or between related parties or constitutes intra-firm trade, the last of these referring to shipments between US companies and their foreign subsidiaries as well as trade between US subsidiaries of foreign companies and their affiliates abroad.
- The second component is the Longitudinal Business Database (LBD) from the US Census Bureau, which includes annual information for US firms at the establishment level.

SOURCE: AUTHORS BASED ON US CENSUS BUREAU ([HTTPS://WWW.CENSUS.GOV](https://www.census.gov)).

Example 2—Switzerland

Switzerland provides a useful counterexample to the US where the data required to estimate trade mispricing exists across different departments, requiring researchers to seek both access and permission to merge and analyse relevant data from different offices. The Federal Customs Administration maintains the Swiss-Impex Database, which contains all recorded international trade transactions conducted by firms domiciled in Switzerland, including product classification, value, quantity, shipment date, destination (or source), transport mode and names of trading partners. However, this database does not match this data with firm characteristics, and nor does it distinguish transactions between related and unrelated parties. Additional data sources thus have to be considered, such as Business Enterprise Registers and International Firm-level Databases.

SOURCE: AUTHORS BASED ON SWISS-IMPEX DATABASE ([HTTPS://WWW.GATE.EZV.ADMIN.CH/SWISSIMPEX/](https://www.gate.ezv.admin.ch/swissimpex/)).

Major trading and financial hubs like the Netherlands, Singapore, Switzerland, the United Arab Emirates, the United Kingdom or the United States have a special responsibility to enhance transparency regarding cross-border trade and financial flows. In the Swiss case, our research highlights specific shortcomings in the lack of disaggregation of customs data on commodity trade, especially with regard to quality, product heterogeneity and price, as well as regarding the non-disclosure of whether trade occurs between related or unrelated parties. Triangulating information from multiple sources including industry reports and commodities exchanges has allowed significant levels of abnormal pricing to be uncovered, and has led to calls for enhanced transparency in customs microdata (Mehrotra and Carbonnier, 2021).

2. *Firm registers and international firm networks databases.* These allow identify trading partners to then determine applicable tax rules and identify transfer-pricing risks between related firms, as explained earlier.

Example 1—Switzerland

In Switzerland, the Business and Enterprise Register (BER) contains all enterprises domiciled and exercising an economic activity in Switzerland. The Federal Statistical Office (FSO) maintains the BER as the register for statistical data collection on businesses. It includes the following information: name and address of the enterprise, municipality code, BER number (a non-significant 8-digit registration number), a UID (enterprise identification number), number of employees, type of economic activity, legal form, date of entry into or cancellation from the trade register, date of opening or closing and capitalisation.

SOURCE: SWISS FEDERAL STATISTICAL OFFICE ([HTTPS://WWW.BFS.ADMIN.CH/](https://www.bfs.admin.ch/)).

Example 2—ORBIS database

For global firm-level information, the Orbis global database from Bureau van Dijk (BvD) is the largest cross-country database that combines national business censuses and financial reporting by publicly listed companies, including financial statements, employment and investment, and detailed information on firms' location, as well as domestic and foreign owners and subsidiaries, all of which allows researchers to detect the effective degree to which firms are related or not.

SOURCE: ORBIS, BUREAU VAN DIJK ([HTTPS://WWW.BVDINFO.COM/](https://www.bvdinfo.com/)).

Johannesen and its co-authors use the Orbis data set, with information on approximately 210,000 corporations in 142 countries, to investigate whether tax avoidance by multinational firms is more prevalent in less-developed countries. Their results consistently show that reported profits are more sensitive to profit-shifting incentives, including higher corporate tax rates, in developing countries with lower levels of economic and institutional development.

3. *Specialised, industry-specific market and prices data* offers the detailed information on product characteristics and value chains required to set fair or arm's-length price ranges for specific commodities. This process can be especially demanding for trade in extractive and agricultural commodities, whose values can vary widely due to traded good quality or storage, insurance and transportation costs, as well as to rapid price fluctuations. Thus, detailed information on product characteristics and relevant international benchmark prices from commodity exchanges are required. The illustrations below provide examples for gold.

Studies have focused in particular on US data linking customs transactions with firm-level information to study abusive transfer pricing in related party trade (Bernard, Jensen and Schott, 2006). Since mobilising domestic resources is a priority for lower-income countries, it is important to strengthen customs and tax administrations and generate the data required to address loopholes. Ahene-Codjoe, Alu and Mehrotra (2022) highlight that customs data limitations in Ghana have restricted the country's ability to trace the origin of significant abnormally priced gold exports totalling approximately USD 4 billion in the period 2011–2017. Triangulating aggregate customs data with

Example 1—Metals Focus Gold Doré Flows Service database

The reliable valuation of precious metal ores requires information on purity levels and the composition of additional metals. The Metals Focus Gold Doré database provides mine-level information on historical, current and forecasted doré production by mining company and by location. It contains information on the current refining location, historical production costs, and current mineral reserves and resources, as well as on the gold/silver split of doré production. The database covers 652 mining companies across 77 countries.

SOURCE: THE AUTHORS; SEE ALSO, METALS FOCUS LTD ([HTTPS://WWW.METALSFOCUS.COM/](https://www.metalsfocus.com/)).

Example 2—Commodity exchanges prices

The London Bullion Market Association (LBMA) Gold and Silver prices are used to set the global benchmark prices for unallocated gold and silver traded worldwide and delivered in London. Precious metals including gold, silver, platinum and palladium are traded by LBMA with price auctions taking place daily in London. The relevant prices are published on the day they are set; real-time prices are also available. This price data allows the setting of reliable arm's-length price ranges for individual transactions of precious metals.

SOURCE: THE AUTHORS; SEE ALSO LONDON BULLION MARKET ASSOCIATION ([HTTPS://WWW.LBMA.ORG.UK/](https://www.lbma.org.uk/)).

mine-level information on gold production and purity grades, the researchers are able to detect IFF risks in the Ghanaian gold trade by mine site and export destination.

Turning to trading hubs, Mehrotra and Carbonnier (2021) draw on the Swiss-Impex Database to compare trade transaction prices with arm's-length price ranges based on high-frequency commodity price data from commodities exchanges and industry-specific data, including on mine-level gold production and purity levels. Focusing on Swiss precious metals and agricultural imports, their paper overcomes previous data limitations and estimates that 4.5 per cent of total gold doré imports—amounting to CHF 21.5 billion—were abnormally underpriced between 2011 and 2017.

3.2 *Profit Shifting*

Profit shifting takes place when a multinational group seeks to transfer profits among its affiliates in order to minimise its overall tax liabilities. This can be done by having affiliates located in high-tax jurisdictions buy goods and services, or obtain loans, at a relatively high price from affiliates in low-tax jurisdictions. The group shifts profits into lower-tax jurisdictions, from where its after-tax profits can be channelled back to investors or reinvested in the company, for example by lending more money to its affiliates in high-tax jurisdictions.

The literature on profit shifting via abusive transfer pricing employed by multinational firms has provided empirical evidence to policy initiatives seeking to establish fairer global tax rules, such as the OECD/G20 BEPS initiative.

An important limitation here is the lack of systematic, comparable data collected at the firm-affiliate level, particularly in developing countries. Given that the majority of international commodity trading firms are not publicly listed, they are not required to report detailed financial data for all affiliates. In this context, advances are being made towards stronger data collection and dissemination, as detailed below.

To capture the extent of profit shifting, researchers generally rely on indirect evidence by studying the overall profitability of affiliates, as it is more challenging to gather direct evidence by analysing profit-shifting mechanisms—including abusive transfer prices and interest rates for loans between affiliates—themselves. The basic methodology used in the profit-shifting literature is based on the work of Grubert and Mutti (1991) and Hines and Rice (1994), and assumes that the observed pre-tax income of an affiliate represents the sum of 'true' income and 'shifted' income (the latter being either positive or negative). True income is generated by the affiliate using capital and labour inputs. Thus, measures of these capital and labour inputs used by the affiliate (such as fixed tangible assets and employment compensation) are included in the analysis of the true level of income.

Shifted income is driven by the tax incentive to move income into or out of affiliates. In the simplest scenario, this incentive would be the tax rate difference between the parent's and the affiliate's jurisdictions. However, the recent literature also takes into account the overall pattern of tax rates faced by all the affiliates of a multinational firm. Income reported by a low-tax affiliate that cannot be accounted for by the affiliate's own labour and capital inputs is therefore attributed to income shifting.

In order to derive estimates of profit-shifting behaviour, researchers use country-level or, more recently, firm-level data to study where there is a significant relationship between the reported pre-tax profits of affiliates (i.e. the tax base) and the difference in tax rates between the affiliate and parent company. Most often, this relationship is reported in terms of semi-elasticities—that is to say, the percentage change in pre-tax income associated with a 1 percentage point change in tax differentials between the parent company and its foreign affiliate. In a meta-analysis of the widely varying magnitudes of the estimates generated in the relevant literature, Heckemeyer and Overesch (2013) identify a 'consensus' estimate—a semi-elasticity of approximately 0.8. This means that a 10 per cent increase in the tax rate difference between an affiliate and its parent company increases the pre-tax income reported by the affiliate by 8 per cent (see Dharmapala, 2014, for an early review of relevant methodological approaches).

Given the potential magnitude and policy relevance of this phenomenon, rapid advances are being made in establishing legal and statistical frameworks to improve the collection of data on the characteristics and activities of multinational firms across all jurisdictions, including:

1. *Foreign affiliates statistics (FATS)*: In recent years, national statistical agencies across the world have started collecting and publishing detailed statistics on the activities of foreign firms operating within their territory, including information on assets, sales, employees, wages and profits. This disaggregated information allows better analysis of profit shifting between firms at an aggregate level. Tørsløv, Wier and Zucman (2023) propose new advances by combining firm-affiliate level data with balance-of-payments statistics to decompose multinational firms' real profits vs. profit shifting, before apportioning their 'above-normal profits' made in tax havens to the countries in which they hypothetically would have been reported in a world without CTR differentials. Using this new FATS data, the authors find that almost 40 per cent of the profits generated by multinational enterprises (MNEs) outside the host country of their parent company are shifted to tax havens. A major limitation, here again, is that this data does not yet provide high quality information for least developed countries, which are not covered in the analyses.
2. *Country-by-country reporting (CbCR) by multinational firms*: Following the OECD's BEPS initiative, approximately 100 countries have implemented CbCR requirements for multinational firms domiciled in their jurisdiction, with key financial information reported by country of operation. Currently, only 19 countries have agreed to publicly share this information in an aggregated form, with some allowing reporting at the regional rather than the country level due to concerns over proprietary and business-sensitive information. Garcia-Bernardo and Janský (2022) use this CbCR information to estimate profit shifting based on the available aggregate data, which allows researchers to observe revenues, profits, and the taxes paid by large multinational firms domiciled in CbCR-compliant countries in other, previously uncovered jurisdictions, including in least developed countries. While this new data source remains preliminary since not many countries have gathered and released CbCR information, the authors offer some initial insights into the profit-shifting behaviour of large MNEs. Their findings suggests that USD 1 trillion of profits worldwide was shifted to tax havens in 2016, resulting in a tax revenue loss of USD 300 billion. Low- and middle-income countries are estimated to lose

proportionally more as a share of their total tax revenues. Methods such as those employed by the authors will produce significantly improved estimates as the underlying data published by national statistical institutions improves.

3. *Phantom vs. real foreign direct investment (FDI) data:* FDI flows make up an economically significant category of overall international financial flows, and are usually interpreted as being related to investments in enterprises conducting legitimate business activities. Damgaard, Elkjaer, and Johannesen (2019), however, highlight that FDI can be channelled through tax havens to minimise tax liabilities and shift the taxable profits of multinational actors. The researchers define ‘phantom FDI’ as investment flows passed through a tax haven in order to benefit from advantageous tax breaks before being invested abroad. Luxembourg has been cited as a prominent tax haven, and records inward FDIs of USD 4 trillion (similar in magnitude to the United States), equivalent to its outward FDIs, suggesting that Luxembourg is only a transit stop for such financial flows. The authors compile detailed FDI data from the IMF, OECD, and Orbis databases and build a database of phantom FDIs vs. real FDIs, further narrowing down real FDIs to the nationality of their ultimate rather than their immediate owner in the case of countries disposing of sufficient data coverage.¹ This new data source highlights that FDI channelled through tax havens and tax secrecy jurisdictions represents a significant medium for IFFs.

3.3 *Offshore Wealth*

Policymakers have demanded more robust evidence on global stocks of hidden offshore wealth held in tax havens, their aim being to focus their efforts on closing regulatory loopholes and repatriating illegally transferred assets through multilateral agreements such as the World Bank’s Stolen Asset Recovery programme (World Bank, 2023). Consequently, empirical research has recently focused on foreign bank deposits and on client data leaked by whistle-blowers.

Offshore wealth is simply understood as the sum of assets booked in a jurisdiction in which the ultimate owner has no legal residence or tax domicile. While there are several legitimate economic reasons for holding offshore

¹ Niels Johannesen website (n.d.) <https://nielsjohannesen.net/FDI/database/> (accessed on 6 February 2024).

wealth, the practice also facilitates tax evasion by high-net-worth individuals and money laundering by criminal actors.

Previous research has mainly relied on balance-of-payments accounting identities to approximate the magnitude of unexplained international flows driven by capital flight and their contribution to the accumulation of offshore wealth. The *sources-and-use* method distinguishes between explained and unexplained financial flows, while the *hot money narrow* method refines the approach by controlling for portfolio investment and bank deposit flows, focusing only on the net errors and omissions component of balance-of-payments accounts.

There is a consensus that current aggregate data sources and macroeconomic methods lack the granularity and sophistication required to distinguish between licit financial flows and illicit financial flows from tax evasion, questionable tax optimisation and money laundering. More granular data and stronger methods have therefore been developed, relying notably on

1. *International bank transfer data*: International pressure to address the most egregious forms of IFFs led the Financial Action Task Force (FATF) to issue, in 2012, binding policy recommendations to tackle international money laundering. These channels for IFFs are linked to offshore wealth transfers by high-net-worth individuals, but also increases the risk of criminal activity and terrorist financing (Collin, Cook and Soramaki, 2016) These FATF standards increased pressure on international banks to refuse to execute transactions and to close the accounts of customers who are either based in high-risk countries or attempt to send money to them. Collin, Cook and Soramaki (2016) use novel SWIFT banking transactions data to investigate the impact on cross-border payments after the inclusion of countries on the FATF's internationally recognised list of high-risk jurisdictions. Their results suggest that countries added to the FATF list experience a 10 per cent decline in such payments, especially when they originate in countries with weak anti-money laundering institutions. Somewhat unsurprisingly, the authors find that developing countries with weak institutions are more likely to be placed on FATF watch lists. More recent analyses using cross-border bank transfer data for Nordic-Baltic countries demonstrate how such data can be combined with machine learning algorithms to identify suspicious transactions involving risks of money laundering and terrorism financing (IMF, 2023).

Sanctioned jurisdictions often are fragile and conflict-affected settings where the need for humanitarian assistance looms large. Aid

organisations have expressed concerns about how de-risking and over-compliance by financial intermediaries impacts their own operational ability to provide life-saving assistance. This has led to the adoption of specific humanitarian exemptions and carve-outs in sanction regimes, including the landmark UN Security Council Resolution 2664, adopted in December 2022, which foresees humanitarian exemptions to asset freezes under UN sanction regimes.

2. *International portfolio and bank deposit ownership data:* Zucman (2014) attempts to estimate the overall stock value of wealth that is held offshore. Unreported wealth drives a wedge into international portfolio statistics, and asset positions of source countries tend to be systematically under-reported as the owners of assets held offshore may not declare them. Since tax havens tend to record the magnitude of their liabilities correctly, this results in gaps between aggregate worldwide assets and liabilities. Zucman (2014) combines international investment position data from the IMF's Coordinated Portfolio Investment Survey containing hidden offshore assets with data on cross-border bank deposits provided by the BIS and finds that of the 8 per cent of total household wealth held overseas, 80 per cent is unreported in source countries. One limitation to this approach is that, similar to earlier balance-of-payment estimates, it relies on deviations in aggregate data that could also be explained by measurement errors. Zucman (2014) also provides evidence that unreported wealth stocks are largest in tax haven jurisdictions and minimal otherwise. Follow-up research by Alstadsæter, Johannesen and Zucman (2019) uses more detailed, updated BIS bilateral bank deposit statistics to allocate the estimates of hidden offshore wealth to source countries. Their key finding is that hidden offshore wealth is positively correlated with the level of economic development in the source country—that is to say, most offshore wealth can be attributed to residents of rich countries.
3. *Financial data leaks concerning high-net-worth individuals:* The past decade has witnessed multiple leaks of financial data, including on the clients of wealth advisory firms specialising in tax optimisation and avoidance schemes domiciled in tax havens. Due to the partial nature of the leaked information, one cannot draw solid conclusions about total hidden wealth. These leaks may, however, contain suggestive evidence of how stocks of offshore wealth respond to regulatory changes, especially in relation to efforts to combat tax evasion in source countries. Leaked data from banks and law firms has also been used to examine whether the risk

of cross-border tax evasion varies with source country characteristics. Omartian (2016) analyses data leaked from Mossack Fonseca (the so-called Panama Papers) and finds that adoption of the OECD's automatic exchange of tax information rules led to a reduction in reported offshore assets held in tax havens. Alstadsæter, Johannesen and Zucman (2019) match detailed data leaked from HSBC Switzerland and from Mossack Fonseca to estimate the incidence of undeclared wealth and the use of offshore shell companies across wealth distribution in Denmark, Norway and Sweden. The authors find evidence of tax evasion in that, for example, 95 per cent of the Swiss accounts were undeclared, and also uncover the frequent use of shell companies by ultra-high-net-worth individuals. These findings led to Scandinavian authorities introducing audit procedures to enhance IFF detection. Using a similar method, Londoño-Vélez and Ávila-Mahecha (2021) find that offshore wealth linked to Colombian taxpayers increased with hikes in wealth taxes. Their estimates show that taxpayers reduced their asset declarations by 11 per cent on average after opening an offshore account.

Example 1—Offshore Leaks database

The International Consortium of Investigative Journalists (ICIJ) compiled the Offshore Leaks database, which includes the Bahamas Leaks, Panama Papers, and Paradise Papers, and covers more than 720,000 individuals and firms across the world.

SOURCE: THE AUTHORS; SEE ALSO [HTTPS://OFFSHORELEAKS.ICIJ.ORG/](https://offshoreleaks.icij.org/).

Example 2—Swiss Leaks project

The Swiss Leaks project is based on HSBC Switzerland data, released by a whistle-blower, covering over 100,000 accounts across over 200 countries. The confidential bank files, now held by the ICIJ, contain detailed information on account balances linked with secretive offshore firms.

SOURCE: THE AUTHORS; SEE ALSO [HTTPS://PROJECTS.ICIJ.ORG/SWISS-LEAKS/](https://projects.icij.org/swiss-leaks/).

Several offshore financial centres, including Switzerland and Singapore, are also major commodity trading hubs. Mechanisms and incentives that encourage wealth offshoring and tax evasion are intertwined with those that facilitate profit shifting through trade and transfer mispricing. More research is required to capture the extent to which enhancing transparency and addressing loopholes related to offshore financial centres would contribute to limiting the scope for profit shifting involving trade-related IFFs, and to identify the most effective avenues via which to prevent tax base erosion.

4 Concluding Remarks: Policies to Measure and Reduce IFFs

This chapter has presented and discussed a variety of avenues via which academics and policymakers may address gaps and enable a global response that curbs commodity trade-related IFFs and benefits developing countries as well. Advances that can be adopted in the short term revolve around enhanced transparency, data disaggregation and the use of new technologies to better track trade and related financial flows. Longer-term solutions involve tax governance reforms that benefit lower-income countries with weaker customs and tax administrations.

Low hanging fruit includes the strengthening of statistical infrastructure to collect and disseminate disaggregated firm-level and transaction-level data, helping regulators to detect and curb abnormally priced transactions. Better information on the quality of traded commodities is required to determine normal or 'arm's-length' price ranges and detect abnormal pricing for the purposes of tax evasion or avoidance. Reining in abusive transfer prices requires greater transparency on trade transactions between related parties. Regularly updated business registers would help in identifying the beneficial owners of all registered companies within a given jurisdiction, benefiting both advanced and developing economies. Other measures have proven beneficial in developing countries, such as the strengthening of tax administrations including via the adoption of transfer-pricing rules, together with evidence-based risk assessments and audits to detect tax evasion.

Research shows that enhanced transparency can work, as the impact of the introduction of the automatic exchange of banking information reveals. The next step is to ensure states can mobilise domestic resources in a progressive manner, which requires setting a threshold for minimal tax rates globally (akin to what has been done for multinational corporations) and closing the many loopholes that remain, loopholes that currently result in billionaires paying virtually no tax on income or wealth.

With regard to trade-related IFFs, regulators in advanced economies have moved towards greater financial disclosure and more stringent documentation requirements. For example, multinational firms have to provide information on how they adhere to the arm's-length principle with regard to transfer pricing, and must set limits on the amount of deductible interest payments carried out among group affiliates. Tax authorities are also acquiring the right to challenge potential tax avoidance under GAARs. Findings to date indicate that such measures have not yet had a significant impact at the global level. In developing countries, these instruments remain either unavailable or partly ineffective, not least because of a lack of disaggregated data with which to identify IFF sources and evaluate the effectiveness of various policy options. Beyond OECD-led taxation reform, developing countries demand a stronger voice in shaping global tax governance reform, and that such negotiations be brought under the auspices of the United Nations. Regional fora are also essential, as illustrated by the African Tax Administration Forum, via which African states can coordinate their positions and their work on tax matters. This is critical to efforts to carve out the policy space required for alternative, simplified taxation methods that are more suitable for countries with weaker administrative capabilities, and to the creation of unilateral or regional taxation solutions in the absence of the readily available data required to properly administer current taxation rules and regulations.

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Trade-Related Illicit Financial Flows in Southeast Asia: Evidence from Extractive and Agricultural Commodities in Laos

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Abstract

The Association of Southeast Asian Nations (ASEAN) has emerged as one of the fastest growing collective economies in Asia. This fast growth is, however, accompanied by various challenges, including the trade-related illicit financial flows (IFFs) that deplete the tax revenues of the Association's Member States. This chapter aims to shed light on the status of the trade-related IFFs present in the scale of trade mispricing that occurs between the ASEAN community and its global trade partners. To better interpret its findings, the chapter provides a legal framework analysis that highlights gaps in efforts to address these financial challenges in the region. Notwithstanding these gaps, certain Member States with substantial non-tax revenue streams have reduced reliance on conventional taxation, allowing for unique fiscal strategies. A comparative analysis of readiness among ASEAN Member States, meanwhile, reveals disparities, with advanced economies demonstrating robust legal systems while developing countries face challenges in implementing complex tax regulation.

The chapter also examines the vulnerability of countries that lack robust legal frameworks, using the Lao People's Democratic Republic (PDR), a landlocked, least-developed country dependent on extractive resources and agricultural exports, as a case study. By estimating the magnitude of trade mispricing of selected mineral and agricultural product exports, the chapter tries to present the consequential impact on potential tax revenue erosion and the economy. Its findings underscore the critical role of legal foundations in addressing the issue of IFFs, including the importance of transfer pricing rules in preventing trade mispricing. Based on these findings, this study encourages less economically developed, tax-revenue-reliant nations like Lao PDR to continue developing a transparent legal system, improve current trade databases, and enhance cooperation with international bodies. This study also suggests such countries explore alternative methods, such as simplified approaches, of estimating tax liabilities and curbing trade mispricing.

1 Introduction

The Association of Southeast Asian Nations (ASEAN) is one of the fastest growing collective economies in the world. With an average GDP growth rate of 8.6 per cent for the period 2013–2021 and a total GDP of USD 3.3 trillion in 2021, ASEAN has become the fifth largest economy in the world and the third largest in Asia (World Economics, 2024). Despite being hit by a global economic recession caused by the COVID-19 pandemic during 2020–2022, ASEAN remains an attractive destination for foreign direct investment. Member States such as Singapore, Indonesia and Vietnam are attracting significant foreign investment, driven by competitive advantage, improved regulation, infrastructure and growing domestic demand. ASEAN's inward direct foreign investment grew from USD 116 trillion in 2012 to USD 179 trillion in 2021 (The ASEAN Secretariat, 2022) and its exports have grown rapidly in recent years, accounting for almost 8 per cent¹ of global exports in the same year. Such a development in international trade facilitates the promotion of production and wealth. However, many emerging nations are not fully reaping the expected benefits of this process due to the phenomenon of trade-related illicit financial flows (IFFs), including practices of tax avoidance through which taxpayers attempt to minimise their income tax liability within the bounds of the law. For instance, multinational corporations (MNCs) may try to shift their profits from high-tax countries to low-tax countries to avoid taxation of their net income and maximise their global net profit. Given that many ASEAN Member States have attracted large inflows of export-oriented foreign direct investment—including much from MNCs—this could increase the risks of trade-related IFFs in the region. The trade-related IFFs are often expressed in terms of trade mispricing or trade misinvoicing, which is further subdivided into illicit financial outflows and illicit financial inflows. Under this concept, estimates from Global Financial Integrity (GFI) (2019) suggest that ASEAN Member States have a large average value of trade mispricing compared to the world, with 9 per cent of illicit financial inflows and 10.1 per cent² of comparable outflows as proportions of their total value in trade (GFI, 2019).

Although trade-related IFFs have been widely studied in terms of advanced economies and the African continent, there are only a very limited number of studies on the issue for ASEAN, and in particular with regard to many of

1 Computed based on data from ASEAN Statistical Yearbook 2022 (The ASEAN Secretariat, 2022) and from the World Bank's World Integrated Trade Solution, available at <https://wits.worldbank.org/CountryProfile/en/Country/WLD/Year/2021> (accessed on 19 February 2024).

2 Computed based on data from GFI (2019) (accessed on 20 July 2023).

its newer Member States, such as Lao People's Democratic Republic (PDR), Cambodia, Myanmar and Vietnam, which have relatively lower levels of socio-economic development compared to those of the founding Member States. Naya and Morgan authored one of the pioneering studies on IFFs in the ASEAN region, reaching the conclusion that trade mispricing is of a much larger magnitude among inter-Asian economies than among industrialised countries (Naya and Morgan, 1969). Another, more recent study conducted by Mehrotra, Nolintha and Sayavong provides evidence of trade mispricing, specifically in coffee and copper (Mehrotra, Nolintha and Sayavong, 2022).

With the aim of expanding IFF-related research with regard to the region, this chapter has certain main objectives. Firstly, we look at the status of trade-related IFFs in ASEAN by examining estimates of the trade mispricing magnitudes of each ASEAN Member State seen from various dimensions, and conduct a gap analysis of the general legal frameworks that have been used to address trade-related IFFs. This helps us to understand at what stage each ASEAN Member State is in its efforts to identify and combat IFFs. Secondly, we conduct a case study of Lao PDR to better understand how a country with less effective legal frameworks via which to address IFFs could be vulnerable to tax base erosion. The case study involves estimating the trade mispricing of Laos's exports of selected mineral and agricultural products. We also review the legal framework of Laos's readiness to address trade-related IFFs, before providing policy recommendations regarding the short- and long-term measures that the Lao PDR government might consider implementing, including 'simplified methods' to tackle trade mispricing in the export of certain products.

For our assessment of IFFs in ASEAN, we extracted estimated trade mispricing figures from a report by GFI (2019) and from a working paper by Sisouphanthong, Phimavong and Insisienmay (2022). The figures thus compiled show that there are excessive levels of IFFs in resource exporting ASEAN Member States such as Malaysia, Thailand, Vietnam and Indonesia. Other Member States show minor level of IFFs in the form of either inflows or outflows. Our legal framework review, meanwhile, reveals that the ASEAN community does not have an 'official' framework via which to combat IFFs and related concerns, although certain advanced Member States have already collaborated with international organisations and adhere to international tax practice guidelines. The Asian Development Bank's *Comprehensive Assessment of Tax Capacity in Southeast Asia* (Chongvilaivan and Chooi, 2021) compares the readiness of ASEAN Member States to address trade-related IFFs. It does so by examining what it considers key aspects of that readiness, including the presence of effective anti-avoidance rules, regulations on thin capitalisation and controlled foreign corporations, the evaluation of harmful tax practices,

the monitoring of high-net-worth individuals and professions, and how each country deals with its shadow economy. This comparison reveals uneven implementation across ASEAN. Member States with advanced levels of economic development and trade openness are more likely to possess robust legal systems that protect their tax bases; developing Member States, meanwhile, may take longer to realise the need to develop such complicated tax regulations to combat trade-related IFFs due to their limited administrative capacity. It is worthy of note that the governments of Brunei and Singapore possess substantial non-tax revenue streams, including in the form of earnings from the sale of oil, minerals and property, and of investment income. This unique financial landscape significantly reduces these economies' dependence on tax revenues to sustain government programmes and services. The availability of substantial non-tax revenues allows these nations to fund public initiatives and services while reducing the conventional burden on taxpayers.

For the case study of Laos—a developing country with abundant natural resources but less effective legal frameworks for tackling IFFs—we estimate the magnitude of trade mispricing in mineral exports, in the form of gold and copper, and agricultural products, in the form of coffee and rubber, using a price filter methodology that incorporates transaction-level data pertaining to a specific commodity originating from a single country. The estimation results show that the mispricing amount for gold and copper exports for the time period 2012–2017 was USD 396.6 million, with an annual average overvaluation of USD 43.7 million and undervaluation of USD 22.4 million. In the case of coffee and rubber, the mispricing figure was USD 522.3 million, with an annual average overvaluation of USD 12.4 million and undervaluation of USD 68.5 million between 2014 and 2020. It is worth noting that the total value of goods traded by Lao PDR in 2017 was almost USD 10 billion (The ASEAN Secretariat, 2022); overvaluation and undervaluation of these four commodities alone account for an annual average of USD 147 million, or 1.47 per cent of the country's total value of goods traded in that year. The results of our legal framework review show that compared to other ASEAN Member States Lao PDR still has no concrete legal foundations for assisting the tax authority and relevant line agencies in their efforts to ensure efficient tax collection, including tax collection from exporters and importers of goods and services.

In general, the study upon which this chapter is based provides evidence that without a proper legal framework, ASEAN Member States, and especially those that do not have sources of revenue other than tax revenue, are likely to suffer from moderate tax revenue loss. Without a transparent legal system to address the tax obligations of taxpayers in a more complicated trade environment, Lao PDR is vulnerable to tax base erosion.

Given that many developing countries have numerous constraints on their ability to construct a complex regulatory framework aligned with international standards for tackling IFFs, the adoption of transfer pricing rules as a practical measure to address tax avoidance still plays a vital role. Our study provides policy recommendations, including the building of a trade database and expanding cooperation with international bodies, and suggests certain alternatives, such as ‘simplified methods’ that a tax authority can apply to estimate the tax obligation of exporters by using a reference price from an open source such as an international trade market to determine whether declared prices are reasonable. In sum, it is hoped that this comprehensive examination will contribute to a better understanding of trade-related IFFs in ASEAN, and provide valuable insights for policymakers, academics and practitioners involved in economic development and financial regulation.

2 Trade Mispricing Values in ASEAN

Table 3.1 presents figures on 2015 trade mispricing in ASEAN nations. Illicit financial outflows are defined as the sum of export underpricing and import overpricing. Conversely, illicit financial inflows are defined as the sum of export overpricing and import underpricing. The figures show trade mispricing calculated using the International Monetary Fund’s Direction of Trade Statistics database and the United Nations’ Comtrade database.³

Malaysia has the greatest levels of trade mispricing in the ASEAN region—as shown by its illegal financial inflows of USD 16,122,400,000 and outflows of USD 22,889,400,000—followed by Thailand, Indonesia and Vietnam. Lao PDR, Brunei and Myanmar have the lowest values of inflows and outflows. With the exception of Malaysia, Thailand and Myanmar, all nations have a greater inflows relative to outflows.

The values of outflows and inflows as proportions of overall trade volume are shown in Figure 3.1. The average proportions for inflows and for outflows are 8.8 per cent and 8.9 per cent, respectively. Across nations, inflows vary between 6.6 per cent and 14.3 per cent, whereas outflows range from 3.1 per cent to 13.3 per cent. Malaysia exhibits the biggest figure for outflows, at 13.3 per cent of overall trade volume. The Philippines, meanwhile, exhibits the biggest figure for inflows, at 14.3 per cent of total trade volume. Certain nations, like Lao PDR

3 Available at <https://data.imf.org> and <https://comtradeplus.un.org/> (accessed on 19 February 2024).

TABLE 3.1 Trade mispricing in ASEAN countries, 2015 (USD millions)

	Export		Import		Inflow	Outflow
	Under pricing	Over pricing	Under pricing	Over pricing		
Brunei	74.5	273.9	152.6	95.7	426.5	170.2
Darussalam						
Cambodia	448.9	545.6	177.5	229.7	723.1	678.6
Indonesia	6,106.0	5,011.0	5,070.4	3,474.4	10,081.5	9,580.4
Lao PDR	33.1	16.0	26.4	7.2	42.4	40.2
Malaysia	18,247.0	5,302.5	10,819.9	4,642.4	16,122.4	22,889.4
Myanmar	143.2	111.3	142.7	235.9	253.9	379.1
Philippines	1,899.2	2,072.2	4,170.3	2,688.6	6,242.6	4,587.8
Thailand	8,726.7	6,380.8	6,587.8	7,224.5	12,968.6	15,951.2
Vietnam	6,626.2	6,010.0	3,645.9	2,519.5	9,655.9	9,145.7

SOURCE: GFI (2019)

and Cambodia, have a low incidence of trade mispricing; However, the proportion of trade mispricing is not significantly different.

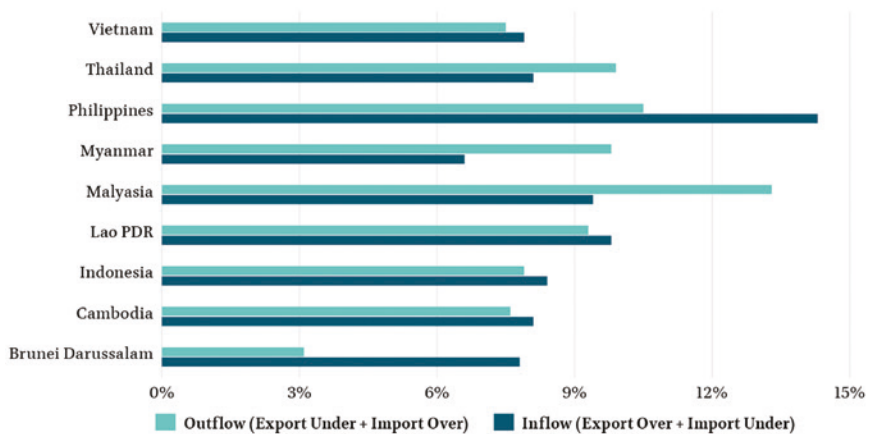


FIGURE 3.1 Financial flows as proportions of trade volumes in ASEAN countries
SOURCE: THE AUTHORS, BASED ON GFI (2019)

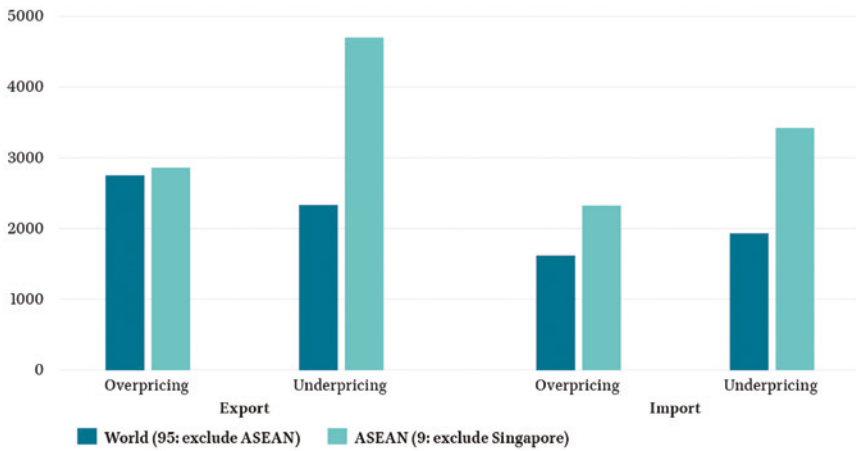


FIGURE 3.2 Trade mispricing in developing and ASEAN countries (USD millions)
SOURCE: THE AUTHORS, BASED ON GFI (2019)

The levels and proportions of trade overpricing and underpricing differ notably between ASEAN countries and developing countries (excluding ASEAN) as shown in Figures 3.2 and 3.3, ASEAN countries exhibiting a comparatively larger average value of trade mispricing. In terms of exports, ASEAN exhibits slightly higher average overpricing, at USD 2,858,100,000, than do developing countries, at USD 2,752,500,000. When it comes to underpricing, however, ASEAN demonstrates a much larger average, of USD 4,700,500,000, than do developing countries, at USD 2,330,800,000—a twofold difference. ASEAN nations exhibit a greater prevalence of both overpricing and underpricing in the context of imports, with average import overpricing of USD 2,324,600,000, which is 1.4 times greater than the value of the developing countries. They also experience import underpricing amounting to USD 3,421,700,000—1.7 times the value of developing countries.

As we see from Figure 3.3, ASEAN countries' figure for inflows as a proportion of total trade, at 9.0 per cent, is slightly lower than that for the developing countries, at 9.7 per cent. In contrast, we see that ASEAN exhibits a notably greater figure for outflows as a proportion of overall trade, at 10.1 per cent, than does the developing countries, at 8.2 per cent.

GFI (2019) states that trade misinvoicing activities pose a global challenge for customs and tax authorities around the world, particularly in developing countries. Not only does trade misinvoicing result in the loss of billions of dollars in uncollected trade-related tax revenues each year, it also facilitates trade mispricing throughout the global economy (GFI, 2019). Many ASEAN Member

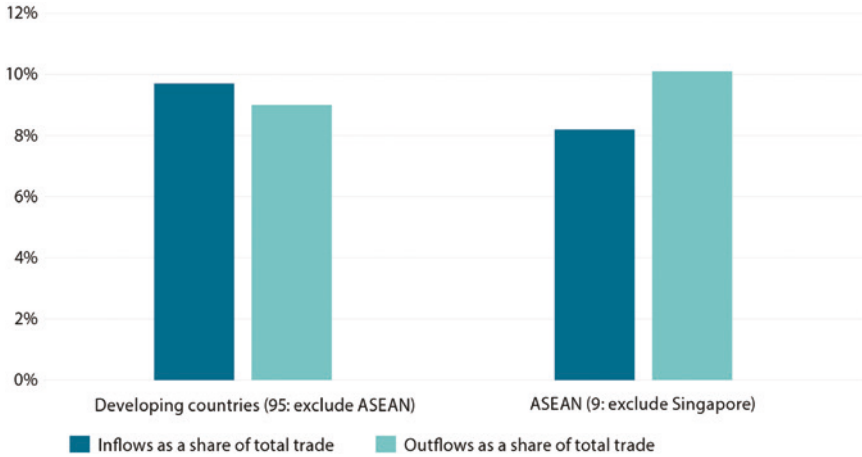


FIGURE 3.3 Financial flows as proportions of trade volume in developing and ASEAN countries

SOURCE: THE AUTHORS, BASED ON GFI (2019)

States inevitably need to review their current regulatory frameworks to tackle this problem.

3 Laws and Regulatory Frameworks Combating IFFs in ASEAN

3.1 *The General Legal Environment for Addressing Trade-Related IFFs in ASEAN*

The ASEAN community has not yet developed an official framework for combating IFFs and their subcomponents. Cooperation with international organisations and endorsement of compliance with international tax practice guidelines are, however, observed in some advanced Member States. Many ASEAN Member States have made efforts to, and some advanced Member States have even been able to, achieve administrative and legal development milestones with regard to combating IFFs, particularly those related to commercial IFFs. These efforts include states' decision to comply with the international multilateral exchange of information in tax matters related to international trade, and some states have also strengthened their legal basis for curbing tax-motivated IFFs.

Our study draws on Chongvilaivan and Chooi's Asian Development Bank study, *A Comprehensive Assessment of Tax Capacity in Southeast Asia* (2021), to establish the current status of each ASEAN Member State with regard to its

readiness and potential to curb trade-related IFFS. This readiness and potential are expressed by (i) the existence of effective anti-avoidance rules that are in line with international practice; (ii) the existence of thin capitalisation and controlled foreign corporation rules (businesses may be inclined to understate their taxable profits in order to avoid being taxed); (iii) the existence of harmful tax practices, where the focus is on assessing whether a targeted regime may facilitate based erosion and profit shifting, and thus have the potential to unfairly affect the tax base of other jurisdictions; (iv) the presence of a focus on high-net-worth individuals (HNWIs) and 'professions' with the aim of monitoring the lawful income sources of such individuals and businesses in order to ensure their compliance with existing tax regulations and rules; and (v) the existence of regulations for dealing with the activities of the shadow economy, which can affect the efficiency of VAT collection and means that better tools and systems are needed if the government is to better manage unreported transactions and identify unregistered businesses.

Table 3.2 provides a summary of the status of the legal framework. It should be noted that as there is only very limited information available regarding Myanmar, discussion of IFFS in Myanmar is excluded from this section. This summary shows us that ASEAN has uneven levels of implementation in the development of legal frameworks to combat tax avoidance and evasion, and that this unevenness is caused by variations in trade volumes and trade openness. Not all Member States have fully developed legal frameworks that could address even the most common tax avoidance and evasion practices in the region. This may be due to some Member States having access to significant non-tax revenues. For instance, Brunei and Indonesia rely heavily on oil and natural gas exports. Lao PDR, meanwhile, draws significant revenue from hydro power generation and the mining sector. It is clear, however, that those states with relatively advanced levels of economic development and trade openness are more likely to ensure that their tax base is better protected by appropriate legal systems.

There follows a brief summary of the implementation status of Member States with respect to various measures to combat tax-related IFFS:

- In terms of effective anti-avoidance rules, Member States with relatively advanced economic development, including most of the founding members—namely, Malaysia, the Philippines, Thailand and Singapore—have at least adopted transfer pricing rules, and some, Indonesia being an exception, also have effective anti-avoidance rules. Certain later arrivals, including Vietnam, also have both general anti-avoidance rules and transfer pricing rules.

- As regards thin capitalisation and the controlled foreign company rule, most Member States do not have formal rules, but rather use various measures to detect the understatement of taxable profits by taxpayers.
- On the identification of harmful tax practices, and based on the report of the Organisation for Economic Co-operation and Development (OECD) Forum on Harmful Tax Practices (OECD, 2019), with the exception of the Philippines all Member States are reported to have no harmful tax practices.
- On monitoring the legitimacy of the source of income of HNWIs and professions, among all Member States only Indonesia has regulations to monitor wealthy nationals, and these were launched in 2019 as part of the country's medium-term revenue strategy.
- In terms of regulations to address the informal/shadow economy, each Member State uses a variety of regulations and incentives to encourage business registration in informal sectors. Only Singapore and Vietnam perform relatively well, having the smallest shadow economies as a percentage of GDP among all Member States.

3.2 *The Implementation of Transfer Pricing Rules in ASEAN*

Transfer pricing refers to the pricing of goods, services and intangibles traded between related parties such as a parent company and its subsidiaries. Transfer pricing rules are regulations put in place by tax authorities to ensure that transactions between related parties are conducted according to arm's-length rules, or, at a market value as though the parties were unrelated. These rules are important for preventing trade mispricing, which occurs when MNCs manipulate prices by setting the transfer prices for their intra-company transactions at lower levels than the prices charged for similar transactions between unrelated parties, the aim being to shift profits from high-tax jurisdictions to low-tax jurisdictions or to avoid paying taxes altogether. By setting the prices for goods or services exchanged between different parts of their global operations, MNCs can manipulate their profit levels and avoid paying taxes in countries in which they operate (United Nations, 2021). In order to prevent MNCs from intentionally shifting profits to lower-tax jurisdictions and thereby avoiding taxes in the higher-tax jurisdictions in which their business is actually conducted, which is done with the aim of maximizing the aggregate profits of their parent or controlling company, transfer pricing rules are implemented. Thus, these rules are an important tool in the battle to protect the revenue collection activities of exporting countries and to ensure that MNCs pay their fair share of taxes (United Nations, 2021).

TABLE 3.2 The development of legal frameworks for countering tax avoidance and tax evasion across ASEAN member states in 2019

Countering tax avoidance and evasion	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia
Effective anti-avoidance rules	No general or specific anti-avoidance rules.	Transfer pricing rules that align with the recommended standards of the OECD exist but there are no general or specific anti-avoidance rules.	No general anti-avoidance rules.	No general or specific anti-avoidance rules apply and there are no transfer pricing rules.	General or specific anti-avoidance rules exist as do disclosure rules on foreign transactions.
Thin capitalisation and controlled foreign corporation (CFC) rules	No rules apply and there are no disclosure requirements. Transactions involving related resident and nonresident entities must be conducted on an arm's-length basis.	No formal rules on thin capitalisation but there is a cap on interest deductions allowed.	Indonesia has a CFC regime. Special rules on tax deductibility of interest apply in the mining and oil and gas sectors in accordance with the contracts.	No limits on interest deductions, no CFC rules, no rules on hybrids or on economic substance, and no disclosure requirements.	Thin capitalisation rules apply but there are no rules on CFCs or hybrids.

Myanmar	Philippines	Singapore	Thailand	Vietnam
No data (ND).	No general or specific anti-avoidance rule. The transfer pricing rules are consistent with OECD guidance.	Has a general anti-avoidance rule and transfer pricing rules that are consistent with the OECD model. A 5 per cent additional tax is applied to transfer pricing adjustments.	No specific or general anti-avoidance rule but transfer pricing and reporting rules apply and are consistent with OECD guidance.	A general anti-avoidance rule and transfer pricing rules exist and are consistent with the OECD model. Transfer pricing reporting follows the BEPS (base erosion and profit shifting) Action 13 recommendations.
ND.	No thin cap or anti-hybrid rules, and no disclosure requirements for related-party dealings.	No thin capitalisation, CFC, or anti-hybrid rules but has implemented the country-by-country reporting requirements under the BEPS minimum standards.	No specific thin capitalisation rules, but interest may be disallowed if it is not charged at an arm's-length rate, is not for a profit-making purpose, or does not relate to a business operation.	Thin capitalisation rules exist, but the country is yet to fully follow the OECD model.

TABLE 3.2 The development of legal frameworks for countering tax avoidance and tax evasion across ASEAN member states in 2019 (*cont.*)

Countering tax avoidance and evasion	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia
Findings from OECD Forum on Harmful Tax Practices	Pioneer services companies.	None reported.	No harmful tax practice reported in reviewed industries.	No findings reported.	Critical businesses were reviewed and found to be not harmful.
A focus on HNWI and professions	No focus reported.	No focus reported.	A focus on wealthy Indonesians, including high income earners, commenced in 2019 as part of the midterm revenue strategy.	None reported.	Has an administrative focus on HNWI (within the Large Taxpayer Unit).
Dealing with the shadow economy	The shadow economy is estimated to be around 30 per cent of GDP.	The shadow economy is estimated to be around 34 per cent of GDP.	The shadow economy is estimated to be around 22 per cent of GDP. A focus on the shadow economy and VAT commenced in 2019 as part of medium-term revenue strategies.	The shadow economy is estimated to be around 25 per cent of GDP.	The shadow economy is estimated to be around 26 per cent of GDP.

SOURCE: THE AUTHORS, DRAWING FROM CHONGVILAIVAN AND CHOOI (2021)

Myanmar	Philippines	Singapore	Thailand	Vietnam
ND.	Potentially harmful features are found to be addressed.	No harmful features are found.	No harmful features are found.	No harmful economic effects in practice.
ND.	None reported.	None reported.	None reported.	No focus on HNWIS was reported.
ND.	The shadow economy is estimated to be around 28 per cent of GDP.	The shadow economy is estimated to be 9.2 per cent of GDP.	The shadow economy is estimated to be around 43 per cent of GDP.	The shadow economy is estimated to be 14.78 per cent of GDP.

A growing number of ASEAN Member States have begun to implement transfer pricing rules, although currently such rules' adoption varies across states, with some countries having more established frameworks than others (see the summary in Table 3.3). According to various reports on the current tax regime status of ASEAN Member States, published by leading international auditors such as KPMG (2023), Ernst & Young (2014), Deloitte (2020a and 2020b) and Grant Thornton (2022a & 2022b), nine of ASEAN's ten Member States—Brunei, Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam—have transfer pricing regulations. Six of these—Indonesia, Singapore, Malaysia, Thailand, Vietnam and Brunei—are members of the Base Erosion and Profit Shifting (BEPS) Inclusive Framework initiative of the OECD and the G20, which was launched in an effort to solve non-taxation issues related to multinational enterprises (MNEs). The measures introduced in BEPS include the following: Action 5, Countering Harmful Tax Practices; Action 6, Preventing Treaty Abuse; Action 13, Transfer Pricing Documentation; and Action 14, Enhancing Dispute Resolution (OECD, n.d.). There is a trend toward the adoption of these rules as countries seek to protect their tax bases. MNEs contribute to domestic economies, but are still expected to pay their fair share of taxes.

From Table 3.3, we notice that not all ASEAN Member States are reaching the same level in terms of transfer pricing rule development given their different stages of socio-economic development. For those who have already started to develop legal frameworks for implementing transfer pricing rules, trade volumes, the nature of exports and imports and even their major trade partners all play an important role, significantly influencing each Member State's decision as to the scope of suitable transfer pricing rule frameworks. Those who have the incentive of significant trade values with OECD countries are more likely to have initiated or even developed certain levels of legal frameworks for implementing transfer pricing rules in order to expand their taxation base, particularly if MNEs reside in the country.

4 Production of Extractive and Agricultural Commodities in Lao PDR: Measuring Export Mispricing

4.1 *The Extractive and Agricultural Sectors*

4.1.1 Gold and Copper

A total of 12 gold mining companies working in the country in 2021, many of which have attracted major levels of foreign investment (see Sisouphanthong,

TABLE 3.3 A summary of the transfer pricing rules establishment in ASEAN

Brunei:

Brunei has concluded around ten income tax treaties that contain an article that resembles Article 9 (Associated Enterprises) of OECD Model Tax Convention (Ernst and Yong, 2014). There are no local transfer pricing regulations in Brunei (Deloitte, 2020b).

Cambodia:

The earliest transfer pricing rules are the Prakas No. 986/MEF effective from October 2017 governing transfer pricing compliance requirements. Instruction No. 11946 released in August 2018 specifically requires taxpayers to apply the arm's-length principle in setting interest rates on related-party loans. Intra-group interest-free loans will likely be challenged under the new regime (Deloitte, 2020a).

Indonesia:

Regulation No. 213/PMK.03/2016 regulates the application of the BEPS Action 13, under which both Master File and Local Files are required to be made available no later than four (4) months after the fiscal year and are to be submitted upon request within a very short time frame of seven (7) days (PWC, 2017).

Malaysia:

The Transfer Pricing Rules 2023 are active for the year of assessment 2023 and the subsequent year of assessment. It is believed that the newly published rules will significantly enhance and strengthen the position of Malaysia's revenue collection authority on transfer pricing enforcement (KPMG, 2023).

Philippines:

The transfer pricing regulations are largely based on the OECD Guidelines and refer to them for further guidance and examples. The country initially published its first Transfer Pricing Guidelines in January 2013 followed by the issuance of Transfer Pricing Audit Guidelines in 2019 (Grant Thornton, 2022a).

Singapore:

The country has mandatory transfer pricing documentation requirements apply for companies which include the introduction of country-by-country reporting requirement. Penalties are imposed for noncompliance as under the Income Tax (Transfer Pricing Documentation) Rules 2018 and Transfer Pricing Guidelines published in February 2018, a general fine of SGD [Singapore dollar] 10,000 for non-compliance and an additional 5 per cent surcharge on any transfer pricing adjustments made during an audit or review have been introduced (Deloitte, 2020b).

TABLE 3.3 A summary of the transfer pricing rules establishment in ASEAN (*cont.*)*Thailand:*

The Transfer Pricing Act was announced in September 2018 and came into force with effect from 1 January 2019. It Requires taxpayer to report related party transactions in a report which request the disclosure of information on the relationship between entities and the inter-company transaction values. (Deloitte, 2020b). The documentation is to be prepared in a specified format and submitted to the tax authorities within one hundred fifty (150) days from the financial year-end (Deloitte, 2020b).

Vietnam:

The first Transfer pricing rules were introduced in 2005 through the Circular 117/2005/TT-BTC, In 2020 Vietnam's tax authority issued Decree No. 132/2020/ND-CP that stipulate principles, methods, process and procedures for determines prices of related-party transactions. The transfer pricing rules apply to Vietnamese taxpayer and Vietnamese branches of foreign companies (Grant Thornton, 2022b).

SOURCES: SEE IN THE TABLE; BANCHONGPHANITH (2024).

Phimavong and Insisienmay, 2022). These companies collectively control 34,056 hectares (ha) of concession land spread over ten districts. Several businesses export their gold production to the international market. According to the findings of our key informant interviews,⁴ the density of gold ore ranges from 6 g/t (grams per ton) to 20 g/t. The exportation of gold mostly takes the form of doré bars, which are semi-pure alloys of gold and silver. The ratio of gold to silver in these bars ranges from 50:50 to 80:20. Additionally, gold concentrate is also included in the exportation process. The primary export markets are China, Australia, Japan, India and Vietnam. Between 2003 and the first half of 2021, the 12 gold mining firms collectively extracted over 3.2 million ounces of gold. Of this amount, around 3.19 million ounces were exported, for a monetary value of USD 15.4 billion. The pricing of exported doré bars is determined by the London Metal Exchange (LME). These prices are contingent on the proportion of gold in the bars and are established via agreements between exporters and their international customers. The value

4 Sources: 1) Finance Manager, Phu Bia Mining Co. Ltd. (interviewed on October 28, 2021). 2) Khamkeut Saen Oudom Gold Mining Co. Ltd. (interviewed on October 10, 2021). 3) Lane Xang Minerals Limited (LXML) (interviewed on October 26, 2021).

of gold exported from Lao PDR has seen fluctuations due to the oscillation in gold prices in international markets and to variations in the gold production capacity of the country. Total exports of gold have increased, from around USD 138 million in 2014 to USD 457 million in 2020 (see Sisouphanthong, Phimavong and Insisienmay, 2022).

Copper is one of the primary export commodities in Laos and a significant generator of government income. Laos primarily produces and sells copper concentrates and cathodes. During the period from 2010–2017, the yearly production of copper cathodes remained relatively constant at around 64,000 tons. The annual output of copper concentrates, meanwhile, rose slightly, from 298,700 tons to 398,800 tons in the same time frame.⁵ In a similar time frame Laos's copper export figures rose notably, from USD 886 million in 2012 to USD 1,183 million in 2018. This growth in value accounted for roughly 90 per cent of total mineral exports from the country in this time frame. According to the Department of Export and Import, in 2018 Thailand, China, Vietnam, the Republic of Korea and Malaysia were identified as the primary export markets for Lao copper.

4.1.2 Rubber and Coffee

There was a significant increase in both coffee production and the area harvested between 2010 and 2017. The latter increased from 50.6 thousand ha in 2010 to 93.3 thousand ha in 2017; the former from 46,300 tons to 150,800 tons in the same time period.⁶ Laos produces and exports two types of coffee: robusta and arabica. The proportion of arabica in the country's coffee exports increased from 19 per cent in 2006 to 67 per cent in 2017 (Phimmavong et al., 2022). A substantial portion of Laos's coffee exports are in the form of unroasted, green coffee beans, which are subsequently roasted in other countries, and accounted for more than 90 per cent of total exports in 2017. There are several stakeholders of various sizes in the Lao coffee industry, including numerous producer collectives. The list of the largest planters is comprised of international corporations, with the exception of a single domestic enterprise.

The Lao rubber industry has seen significant growth in the last few decades. In 2021, 294,123 ha were under cultivation, comprising 131,610 ha designated as concession land, 59,758 ha allocated for contract farming, and 102,755 ha

5 See the Lao Statistics Bureau, Ministry of Planning and Investment, Statistical Yearbooks 2011; 2012; 2013; 2014; 2015; 2016; 2017, <https://laosis.lsb.gov.la/> (accessed on 11 March 2024).

6 See the Lao Statistics Bureau, Ministry of Planning and Investment, Statistical Yearbooks 2011; 2012; 2013; 2014; 2015; 2016; 2017, <https://laosis.lsb.gov.la/> (accessed on 11 March 2024).

designated for smallholder cultivation. Annual rubber output grew significantly and rapidly, from 50,000 tons in 2014 to 300,000 tons in 2020. The rubber is almost exclusively shipped to China and Vietnam, with around 70 per cent of all rubber production going to the former and around 30 per cent going to the latter. The value of these exports has also increased notably, growing from around USD 11 million in 2012 to around USD 50 million in 2014. There followed further surges in export values, which reached USD 153.4 million in 2017⁷ and USD 230 million in 2020. The determination of rubber pricing in domestic rubber markets is contingent upon agreements reached between farmers and intermediaries (see Sisouphanthong, Phimavong and Insisienmay, 2022).

4.2 *Measuring Export Mispricing in Lao PDR*

Sisouphanthong, Phimavong and Insisienmay (2022) and Mehrotra, Nolintha and Sayavong (2022) present findings on the mispricing value associated with extractive and agricultural exports in Lao PDR. The researchers use the price filter methodology, which utilises transaction-level data pertaining to a specific commodity originating from a single nation. The methodology involves comparing the declared unit price of a certain commodity to the arm's-length contemporaneous free-market price in the same period. The unit price is calculated from an export value divided by an export quantity, and the arm's-length contemporaneous free-market price could be plus–minus reasonable filter conditions such as quality of product, exportation cost, or logistics cost.

Export mispricing involves overvaluation when the declared price is higher than the higher length of the contemporaneous free-market price, as shown in Equation (1), and undervaluation when the declared price is lower than the lower length of the contemporaneous free-market price, as shown in Equation (2).

$$\text{Overvalue} = q * \max(0, p - ph); \quad (1)$$

$$\text{Undervalue} = q * \max(0, pl - p); \quad (2)$$

Where q is the export volume, p is the declared price, and ph and pl are the higher and lower length of the contemporaneous free-market price, respectively.

The data is sourced from the Lao Customs Department, which falls under the purview of the Ministry of Finance. Commodities are classified and distinguished using an 8-digit Harmonized System code. The calculation of

⁷ Trade statistics from <https://www.trademap.org/> (accessed on 12 February 2024).

mispricing for gold spans from 2013 to 2020, for copper cathodes from 2012 to 2017, for rubber from 2014 to 2020, and for coffee from 2012 to 2017.

4.2.1 Export Mispricing of Extractive Commodities

Table 3.4 presents the anticipated value of export mispricing pertaining to gold and copper for the period 2012–2020. The anticipated values of gold exports between 2014 and 2020 are USD 5.1 million for exports that are overvalued and USD 106.5 million for exports that are undervalued. The data indicates that the aggregate value of export mispricing is estimated to be USD 111.6 million. The yearly average export overvaluation amounts to USD 0.7 million, while the figure for undervaluation is USD 15.2 million. According to the data collected for 2012 to 2017, the entire overvaluation of copper amounts to USD 262.2 million, while the total undervaluation is estimated to be USD 134.4 million. Aggregate mispricing amounts to USD 396.6 million, with an annual average overvaluation of USD 43.7 million and an undervaluation of USD 22.4 million.

Figure 3.4 displays export mispricing as a proportion of overall volumes of exports. The proportion of gold exports that are overvalued is a mere 0.3 per cent, but the figure for exports that are undervalued is far higher, at 6.8 per cent. For copper, the proportion of exports that are considered overvalued is 5.5 per cent, while the proportion of exports that are considered undervalued is 2.8 per cent. We observe that the degree of undervaluation in gold is much higher than the degree of overvaluation. In copper, meanwhile, the degree of undervaluation is lower than the degree of overvaluation.

4.2.2 Export Mispricing of Agricultural Commodities

The phenomenon of export mispricing has also been observed in the case of coffee and rubber. Table 3.5 presents the anticipated value of export mispricing pertaining to coffee and rubber for the period 2012–2020. The coffee export sector sees a total overvaluation of USD 2.2 million and an undervaluation of USD 260 million, resulting in cumulative mispricing of USD 262.2 million. Yearly average overvaluation amounts to USD 0.3 million, while average undervaluation is USD 43.4 million. Rubber is overvalued to the tune of USD 84.5 million and undervalued to the tune of USD 175.6 million for the period 2014–2020. Annual average overvaluation is USD 12.1 million; the figure for undervaluation is USD 25.1 million.

Figure 3.5 displays export mispricing as a proportion of the overall exports of agricultural goods. The proportion of overvalued coffee exports is minimal, accounting for just 0.7 per cent of the overall figure, while the proportion of undervalued exports is far higher, at 76.9 per cent. There is more undervaluation than overvaluation of rubber, but the difference appears minimal,

TABLE 3.4 Export mispricing of extractive commodities (USD millions)

Year	Gold			Copper		
	Export	Over-valued	Under-valued	Export	Over-valued	Under-valued
2012				734	0.07	3.6
2013				678.8	0.34	0.88
2014	138	0.6	8.2	965	23.2	103.16
2015	152.3	0.2	5.5	763	40.54	10.48
2016	130	1.3	5.8	754	145	2.5
2017	161.9	2.5	8.6	893	53	13.79
2018	142	0	6.1			
2019	187.4	0.2	4.8			
2020	457.1	0.3	67.6			
Average	195.5	0.7	15.2	798.0	43.7	22.4
Total	1,564.2	5.1	106.6	4,788.0	262.2	134.4

SOURCE: THE AUTHORS, SUMMARISED FROM THE RESULTS OF SISOUPHANTHONG, PHIMAVONG AND INSISIENMAY (2022) AND MEHROTRA, NOLINTHA AND SAYAVONG (2022)

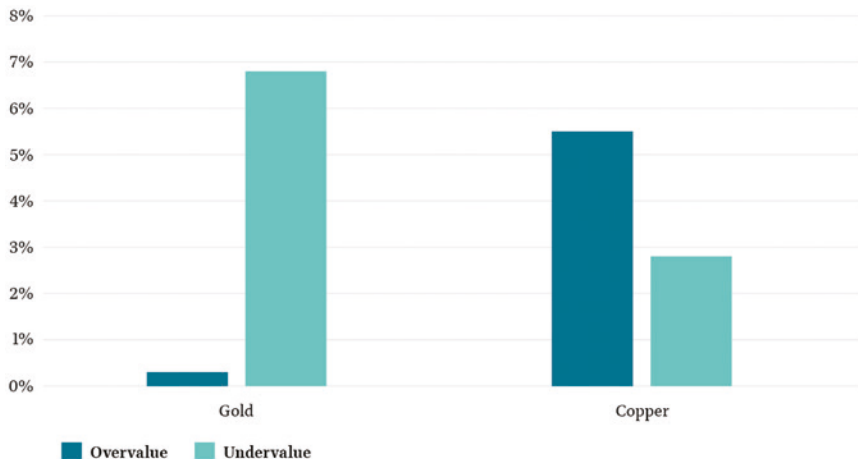


FIGURE 3.4 Export mispricing as a proportion of total exports of extractive commodities

SOURCE: THE AUTHORS, SUMMARISED FROM THE RESULTS OF SISOUPHANTHONG, PHIMAVONG AND INSISIENMAY (2022) AND MEHROTRA, NOLINTHA AND SAYAVONG (2022)

TABLE 3.5 Export mispricing of agricultural commodities (USD millions)

Year	Coffee			Rubber		
	Export	Over-valued	Under-valued	Export	Over-valued	Under-valued
2012	50	0.8	6.7			
2013	68	0.6	9.1			
2014	61	0.1	27.3	35.2	2.1	4.5
2015	52	0.1	196.0	54.3	8.3	6.7
2016	32	0.1	11.0	77.7	3.9	13.2
2017	75	0.5	10.4	89.8	10.9	30.0
2018				169.4	28.1	13.1
2019				248.5	18.7	35.0
2020				628.4	12.5	73.1
Average	56	0.3	43.4	186.2	12.1	25.1
Total	338	2.2	260	1,489.3	84.5	175.6

SOURCE: THE AUTHORS, SUMMARISED FROM THE RESULTS OF SISOUPHANTHONG, PHIMAVONG AND INSISIENMAY (2022) AND MEHROTRA, NOLINTHA AND SAYAVONG (2022)

with 5.7 per cent of exports deemed overvalued and 11.8 per cent considered undervalued.

5 Legal Infrastructure in Lao PDR and Policy Recommendations for Addressing Trade-Related IFFs

5.1 *Legal Infrastructure for Addressing Trade-Related IFFs in Lao PDR*

Norasing, Musselli and Bonanomi (2020) mentioned that trade mispricing is a multidimensional problem and that combating it requires collaborative efforts involving customs enforcement, corporate accounting, tax calculation methods and anti-corruption and anti-money laundering (AML) regulation. Hence, combating mispricing or trade-related IFFs calls for consistency across various laws, including customs law, tax law, company law, anti-corruption law and AML regimes. These authors suggest that the challenge is to disentangle this complex thread of laws and regulations, by assessing overlaps and loopholes. Their study establishes the foundation for an initial legal framework review,

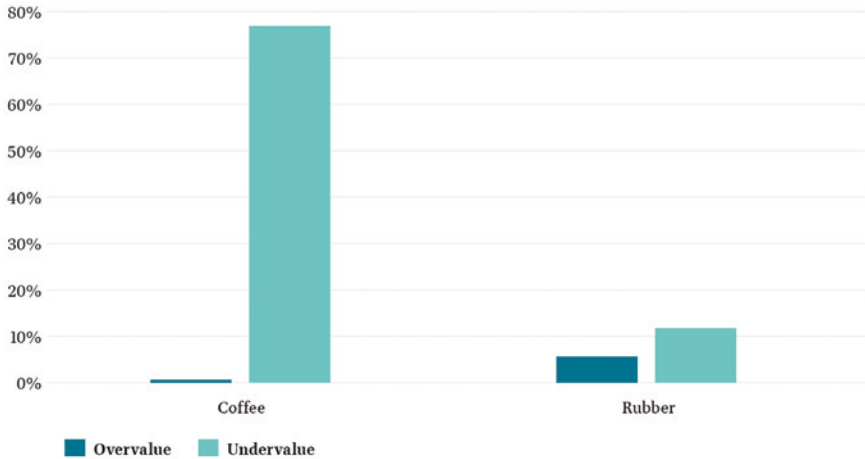


FIGURE 3.5 Export mispricing as a proportion of total exports of agricultural commodities
 SOURCE: THE AUTHORS, SUMMARISED FROM THE RESULTS OF
 SISOUPHANTHONG, PHIMAVONG AND INSISIENMAY (2022) AND MEHROTRA,
 NOLINTHA AND SAYAVONG (2022)

which seeks to define gaps in efforts to address trade-related financial flows by scrutinising the laws and regulations that are considered relevant to measures to address commodity trade mispricing. The laws and regulations reviewed with respect to Lao PDR are summarised in Table 3.6.

These authors' findings suggest that Lao PDR generally has a basic legal framework in place to address trade mispricing, but that the government needs to further improve the legal infrastructure to ensure that laws and regulations are effective. Areas requiring improvement include guidance with regard to the detection of mispricing/misinvoicing practices and to proving that declared prices are distorted or that profits have been diverted. The tax authority also needs more detailed rules and procedures to enable the effective adjustment of transaction prices to tackle mispricing/misinvoicing. It is worth mentioning that these authors' study states that the then amended Customs Law provides the basis for the valuation of export prices and prohibits and sanctions trade mispricing by prohibiting customs officers and declarants from falsifying customs documents and mis-declaring the information therein. Unfortunately, the Tax Law, amended in 2019, neither regulates or legalizes a formal term and definition for trade mispricing practices as it did

TABLE 3.6 Lao PDR laws and regulations relevant to efforts to combat mispricing (1 of 2)

Name of law	References
1. Law on Tax (amended in 2019)	(The Government of Lao PDR, 2019c)
2. Law on Income Tax (amended in 2019)	(The Government of Lao PDR, 2019b)
3. Law on Excise Tax (amended in 2019)	(The Government of Lao PDR, 2019a)
4. Law on Value Added Tax (amended in 2018)	(The Government of Lao PDR, 2018c)
5. Law on Customs (amended in 2011)	(The Government of Lao PDR, 2011)
6. Law on Accounting (amended in 2019)	(The Government of Lao PDR, 2013)
7. Law on Commercial Banks (amended in 2018)	(The Government of Lao PDR, 2018a)
8. Law on Anti-money Laundering and Counter-Financing of Terrorism (amended in 2014)	(The Government of Lao PDR, 2014)
9. Presidential Ordinance on Fees and Charges for Services (amended in 2012)	(The Government of Lao PDR, 2012)
10. Law on Investment Promotion (amended in 2016)	(The Government of Lao PDR, 2016)
11. Law Economic Dispute Resolution (amended in 2018)	(The Government of Lao PDR, 2018b)

SOURCES: MINISTRY OF JUSTICE OF LAO PDR, *LAO OFFICIAL GAZETTE*, VARIOUS DATES

not regulate transfer mispricing. It neither embodied the ‘arm’s-length principle’ with regard to assessing transactions between associated enterprises nor specified any alternative method to assess and adjust ‘related-party’ profits.

This was also later confirmed by Mehrotra, Nolintha and Sayavong’s (2022) study of trade mispricing evidence for mining products and agricultural products. In this paper, the authors further review some of the above-mentioned laws and their recent amendments, alongside other regulations that are not covered by Norasing, Musselli and Bonanomi (2020), which are listed in Table 3.7. In this way they were able to capture some notable progress made by the government, which could contribute to efforts to protect the country’s tax base from trade-related illicit financial-like transaction practices.

The recent amendments to Lao PDR's Law on Customs and its Implementation Instructions signify a proactive approach to addressing trade-related IFFs. The key provisions include:

- Data facilitation. The amendments emphasise legal and internationally standardised data and information, promoting transparency in customs operations.
- Modern customs database. The establishment of a modern, transparent, auditable customs database enhances efficiency and accountability in customs operations, aligning with global best practices.
- Citizen involvement. Encouraging citizens to report illegal tax evasion or avoidance practices fosters public cooperation, adding an extra layer of vigilance and compliance.
- International collaboration. The exchange of customs information, technology, training, and tax authority capacity building and measures to enhance participation in tax- and customs-related international treaties demonstrate a commitment to global cooperation.
- Guidelines for document inspections. Implementation Instructions offer simple guidelines for tax authorities conducting document and goods inspections of exporters or importers, streamlining compliance processes.

TABLE 3.7 Lao PDR laws and regulations relevant to efforts to combat mispricing (2 of 2)

Name of law	References
1. Law on Tax (amended in 2023)	(The Government of Lao PDR, 2023a)
2. Law on Customs (amended in 2020)	(The Government of Lao PDR, 2020b)
3. Instruction on Implementing the Law on Customs	(The Government of Lao PDR, 2021)
4. Presidential Ordinance on Natural Resources Fees	(The Government of Lao PDR, 2023b)
5. Decree on Responsibilities Against Money Laundering and Terrorism Financing	(The Government of Lao PDR, 2020a)

SOURCES: MINISTRY OF JUSTICE OF LAO PDR, *LAO OFFICIAL GAZETTE*, VARIOUS DATES

The recent Presidential Decree on Natural Resource Fees (The Government of Lao PDR, 2023b) lists the percentages of resource royalties or fees that extractive companies should pay to the government. This list includes resources such as minerals, forest products, soil, sand and rock, and natural resources used in hydropower projects. The Decree also provides guidelines for the calculation of natural resource royalties. It is worth mentioning that it clearly stipulates that exporters should use reference prices from international, regional, or even local markets to calculate royalties due on mineral products such as gold and copper. This is probably one of the reasons the estimated export mispricing values for gold and copper are much lower than those for coffee and rubber, as there are no precise guidelines yet for agricultural exports.

Further progress paving the way to measures to combat trade-related IFFs has been made in the areas of AML and anti-terrorist financing laws and regulations. The most recent regulation in this area is the Decree on Responsibilities Against Money Laundering and Terrorism Financing (The Government of Lao PDR, 2020a). This Decree stipulates that 15 key central agencies—including some ministries and bodies considered to be directly involved in curbing trade-related IFFs, such as the central bank, the Ministry of Industry and Commerce, the Ministry of Planning and Investment, the Ministry of Foreign Affairs, the Ministry of Justice, the Ministry of Natural Resources and Environment, the Ministry of Finance, the Ministry of Energy and Mines, the Ministry of Agriculture and Forestry and the Ministry of Public Security—shall cooperate, share information and data on investors and their major shareholders and funding sources, and issue necessary laws and regulations for combating money laundering and terrorist financing.

Despite these advances, notable gaps persist: 1) specific guidelines or manuals to enable tax authorities to inspect trade information through data exchange with international organisations, especially concerning transactions involving MNEs and their affiliates overseas, are lacking; 2) there is still no precise legal definition of trade-related IFFs in the above-mentioned amended and newly promulgated laws to ensure coverage and impose specific legal action against movements resulting from tax evasion and tax avoidance; 3) the fact that ASEAN is a major trading partner of Lao PDR and that Laos's major commodity exports are dominated by foreign investors, as mentioned in Section 4, highlights the importance of Laos considering introducing transfer pricing rules into its domestic legal framework, as other ASEAN Member States have done. This is vital for minimising, up front, the revenue loss that cross-agency collaboration in laws and regulations between line government agencies is attempting to recover.

5.2 *Policy Suggestions for Addressing Trade-Related IFFs in the Short and the Long Run*

5.2.1 Adoption of 'Simplified Methods' of Addressing Trade Mispricing as Part of the Short-Term Strategy

Like many developing countries, Lao PDR is encountering numerous challenges as it seeks to address IFFs, including trade mispricing and the difficulty of implementing transfer pricing rules. Firstly, crafting comprehensive laws and regulations to combat such flows is a complex task that takes time and expertise, and the Lao government does not possess the immediate capacity to enforce existing and future legal frameworks effectively. Further, inadequate human resources and limited government budgets further hinder these efforts, and a lack of awareness among taxpayers regarding their tax obligations exacerbates the problem. Given these challenges, the government must explore alternative strategies to tackle IFFs without requiring the deployment of extensive resources in the short term.

Many international organisations have proposed that developing countries seek international cooperation and assistance, engage in information-sharing agreements, and collaborate with organisations such as the OECD, the United Nations Office on Drugs and Crime (UNODC) and the United Nations Conference on Trade and Development (UNCTAD). In the case of resource-rich developing countries, however, Musselli and Bürgi Bonanomi (2022) proposed the use of simplified methods or formulaic, rule-based pricing methods to counter tax avoidance and harmful thin capitalisation tax practice. Their study considers one approach called 'the sixth method' under transfer pricing law. The sixth method authorises or requires taxpayers (when filing a tax return) and tax administrations (when auditing a taxpayer's position) to use reference prices when determining the tax value of commodity sales, particularly in the context of related-party sales. If this policy is to be effectively implemented, there is an urgent need to develop guidelines on quality measurement and valuation for traded commodities (e.g. coffee) and assign a specific authority to certify the quality of each commodity in the country. This measure would help address the problem of trade mispricing when it is driven by the distortion of the commodity quality reported. Armed with such guidelines, customs authorities could more closely scrutinise export transactions that deviate significantly from the reference price or price range.

Musselli and Bürgi Bonanomi's study (2022) provides an example of the use of the reference price of copper and copper ore exports in Lao PDR, in which the Ministry of Energy and Mines (MEM) assesses copper royalties using a price formula that refers to the LME Official Price for copper to account for the hidden costs, such as transport and insurance costs, contract terms, and other

adjustments, associated with export costs. For example, the MEM uses the LME reference price (the spot price on the date of calculation) multiplied by the regulated royalty rate to validate the royalty payments declared by exporters of refined copper; for copper ores and concentrates, the LME price is multiplied by the copper content (the copper content is approved by the Mining Department of the MEM) in the concentrate to validate the royalty payments declared by exporters of copper ore. Given this example, the Lao tax authority may wish to further explore more simplified methods of validating tax payments in a manner that is neither too time consuming nor beyond its current capacities.

5.2.2 Policy Suggestions as to How to Address Trade Mispricing in Long-Term Planning

Trade mispricing is a multidimensional problem, and addressing it requires a coherent combination of laws, resolutions, decrees, ordinances, and administrative orders, as well as institutions equipped to implement such a legal framework (Norasing, Musselli and Bonanomi, 2020). To consistently combat IFFs in the long run, Lao PDR needs to establish a legal framework that is robust and that embodies comprehensive coordination of all agencies concerned. In its efforts to establish such a framework, the government will face numerous challenges, including the following:

- The domestic legal framework must enable the establishment of mechanisms for mutual information exchange with trading partner countries to address data discrepancies regarding exportation and importation of goods between Lao PDR and its trading partners.
- Investment is needed to improve and maintain the trade, customs, and tax statistical recording practices of the customs and tax branches of the Ministry of Finance. This will require working with the private sector to establish the technological systems that will enable this data to be shared with other agencies such as the central bank, the National Statistical Office, and other relevant agencies. Such systems may include a detailed foreign trade database for all commodities at all exporting ports, containing transaction-level customs data (including on product quality (grading), transport and insurance costs, the records of importers and exporters and the final destination of the export). This would also prepare the country for participation in international data exchange protocols.
- While the government must continue to develop the laws and regulations necessary for it to address trade-related IFFs, the enforcement

of existing tax and customs laws and regulations must be strengthened. This includes training tax officials, conducting audits, and using technology to analyse data and identify potential transfer pricing issues. This will require, at least, closer cooperation between the Ministry of Finance, the Ministry of Foreign Affairs, the Ministry of Public Security and the Bank of Lao PDR.

- Provided that Lao PDR relies heavily on its natural resource exports to generate revenue, rather than allocating its limited financial resources to all areas that require improvement it may be more realistic and reasonable to start strengthening the capacity of tax, customs and trade officials with regard to natural resource exports, price hedging, and valuation, so that the relevant authorities acquire sufficient knowledge and skills in managing the natural resource sector. This will require the involvement of the Ministry of Finance, the Ministry of Planning and Investment, the MEM, the Ministry of Agriculture and Forestry, the Ministry of Industry and Commerce, the Ministry of Foreign Affairs, the Ministry of Public Security, the Bank of Lao PDR and enterprises and foreign investors.
- In order to prevent tax losses to low-tax jurisdictions, it is crucial to prevent the tax base erosion caused by MNEs. The government may consider studying the OECD Transfer Pricing Guidelines and exploring the possibility of establishing a simplified method specific to Lao conditions before adopting the full guidelines and thus aligning the country with international practices. This will require cooperation between, at least, the Ministry of Finance, the Ministry of Industry and Commerce, the Ministry of Foreign Affairs, the Ministry of Public Security, the Bank of Lao PDR and multinational investors.

6 Conclusions

Trade-related IFFs pose complex challenges. Addressing them requires a comprehensive and sustained effort that mobilises multiple laws, regulations, and institutional frameworks. Focusing on ASEAN Member States, this chapter has outlined occurrences of trade mispricing and set out the existing legal framework for addressing trade-related IFFs across the bloc. Our legal framework analysis has shown that each Member State is at a different stage of development regarding the implementation of laws and regulations for curbing trade-related IFFs, and that these stages depend largely on each nation's degree of dependence on tax revenues and on the legislative capacity of each government. In general, lessons from ASEAN Member States suggest that preventing

tax base erosion is vital, as countries can use the revenue thus safeguarded in their socio-economic development and poverty reduction programmes. For Lao PDR to sustainably combat IFFs in the long run, the government should focus on following areas and foster collaboration among key stakeholders:

- Establish a robust legal framework. Addressing trade-related-IFF issues such as trade mispricing and profit shifting by MNEs requires a domestic legal framework that enables mutual information exchange between Laos and its trading partners. The Decree on Responsibilities Against Money Laundering and Terrorism Financing is an exemplary contribution to such a framework, as it involves the coordination of 15 key agencies, including the Ministry of Finance, the Bank of Lao PDR, the Ministry of Industry and Commerce, the Ministry of Planning and Investment, the Ministry of Foreign Affairs, the Ministry of Justice, the Ministry of Natural Resources and Environment, the MEM, the Ministry of Agriculture and Forestry and the Ministry of Public Security.
- Invest in technological infrastructure. Investment is vital to enhance the trade, customs, and tax statistical recording practices of the Lao authorities. The Ministry of Finance should collaborate with the private sector and work closely with exporters and importers to establish technological systems that support the creation and maintenance of detailed foreign trade databases that capture transaction-level customs data and other critical information. This infrastructure would not only improve current practice, it would also position the country for future participation in international data exchange protocols.
- Strengthen enforcement mechanisms. The effective enforcement of existing tax and customs laws requires continuous development and training. Collaboration between the Ministry of Finance, Ministry of Foreign Affairs, Ministry of Public Security and the Bank of Lao PDR is essential. Such collaboration would enable audits, technology-driven data analysis, and the identification of potential tax evasion, tax avoidance, and transfer pricing, bolstering the fight against trade-related IFFs.
- Targeted capacity building in the area of natural resource exports. Given Lao PDR's reliance on natural resource exports for revenue, it would be pragmatic to prioritise tax authority capacity building in this sector. Strengthening the expertise of tax, customs, and trade officials with regard to natural resource exports, price hedging, and valuation is essential. Involving multiple ministries, agencies, and

industry stakeholders would ensure a holistic approach to the challenges specific to the sector. Close cooperation is required between the Ministry of Finance, the MEM, the Ministry of Natural Resources and Environment, the Ministry of Industry and Commerce and the Ministry of Planning and Investment.

- Prevent tax base erosion by MNEs. To prevent tax losses to low-tax jurisdictions, Lao PDR should explore simplified methods aligned with OECD Transfer Pricing Guidelines (OECD, 2022). Cooperation between the Ministry of Finance, Ministry of Industry and Commerce, Ministry of Foreign Affairs, Ministry of Public Security, the Bank of Lao PDR and multinational investors is crucial in this regard. Studying and adopting international best practices will fortify the country against the tax base erosion caused by MNEs.

In addition to the above-mentioned measures, and with regard to ASEAN more generally, it is vital that those low-income Member States without proper legal frameworks urgently develop administrative capacity and relevant legal structures tailored to their priorities and adopt international best practices. They should also, however, continue diversifying their income sources and leveraging alternative revenue streams until their legal frameworks are capable of combating complex IFF practices, thus following a logical sequence of reforms.

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Metals Streaming and Royalty Financing: A Framework for Assessing Mining Sector Financial Benefit–Sharing Implications for Governments

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Abstract

This chapter offers a simplified approach to assessing the potential impact of metals streaming and royalty financing on government revenues. Subject to the availability and quality of information, a revenue impact ratio can be determined by comparing the potential revenues to the government from more traditional forms of financing with potential revenues to the government from metals streaming or royalty financing.

The chapter considers the key features, advantages, and disadvantages of these alternative funding options for mining projects, and then develops an illustrative model to demonstrate their potential impact on government revenues. This forms the basis on which to identify the key challenges, and the policy considerations when addressing them.

While metals streaming provides upfront capital and a potential hedge against price risk for producers, it could also limit the upside potential for both the mining company and the host government. On the other hand, royalty financing offers stable income streams and diversification opportunities for investors but may lack direct exposure to metal price increases.

The ultimate risk faced by resource-rich governments as a result of an increase in the use of metals streaming and royalty financing arrangements is a suboptimal share of the potential benefits that will accrue from the mining operations. Specifically, the risk is of a reduction in taxable income and royalty revenue.

At the heart of the policy considerations pertaining to resolving these challenges and risks is reducing information asymmetry between the government, the mining company and the streaming or royalty company. One important way to do this is to strengthen tax legislation and enforcement mechanisms. Implementing anti-avoidance rules, such as interest limitation rules, can limit the ability of metals streaming and royalty financing companies to exploit tax and other loopholes. Other features with which to strengthen the legislation include clear minerals pricing rules, and clearer provisions regarding withholding taxes.

1 Introduction

1.1 *Background*

Alternative means of financing mining operations, such as metals streaming and royalty financing, are increasing in use. There is significant growth potential for these alternative forms of financing, particularly in light of growing demand for critical minerals.¹ For example, an industrial assessment has identified the 12 metals with the greatest potential for streaming or royalty financing, which could yield up to USD 1.4 trillion in secondary revenues by the end of the decade² (Mareels, Moore and Vainberg, 2021).

Metals streaming is a term used to describe an agreement in which a company (the streaming company) makes an advance payment to a mining company, either as an upfront payment or in a series of instalments, in exchange for rights to a specified amount or a specified percentage of future mine production, or of a specified metal produced (Vergara and Urrutia, 2019). It is typically long term (more than 20 years or for the life of the mine). Royalty financing, on the other hand, is a form of alternative financing where the mining company grants another company (the royalty company) the right to receive a percentage of the revenue generated from the sale of metals produced from a specific mining operation. In this arrangement, the royalty company also provides upfront capital to the mining company, and in return receives ongoing royalty payments based on a percentage of the gross sales revenue from the metals extracted and sold.

These alternative financing options will prove increasingly important, especially given the scale at which capital will need to be raised for mining projects to meet the net-zero-by-2050 targets (the World Bank (2022) anticipates USD 1.7 trillion in global mining investment for this purpose). Critical minerals, particularly minerals required for energy transition technologies such as batteries for electric vehicles and wind turbines, are often by-products or co-products of the mining operation (Bellois and Ramdoo, 2023; UK Government, 2023). The relevance of these alternative financing options is further increased given their historical tendency to focus more on financing mineral by-products (McLean

1 For the purpose of this chapter, critical minerals refer to minerals such as copper, lithium, nickel, cobalt and rare earth elements that are essential components of clean energy technologies. The term 'critical minerals' is used interchangeably with 'energy transition minerals' in the chapter.

2 These metals are chromium, refined cobalt, refined copper, gold, lead, molybdenum, palladium, silver, uranium, vanadium, zinc and zirconium.

and Page, 2016, note that the stream is often the by-product of the core mining operations).

The anticipated increase in demand for critical minerals will inevitably result in an increase in exploration and production activity, beyond jurisdictions with known ore reserves and with a history of large-scale mining activity, in jurisdictions with less known resource abundance and limited historical mining experience. For the governments of these jurisdictions, especially in countries with limited tax administrative experience in dealing with such non-traditional financial arrangements for mining operations, this raises the risk of suboptimal shares of the financial benefits that could accrue to them mainly in the form of tax revenues. This risk could be more pronounced due to potential opportunities for financial secrecy and money laundering inherent in transactions of this nature. These transactions—like any other—can be exploited to disguise the origins of their funds and make them hard to trace, thus increasing attractiveness to illicit financial flows.³

The International Energy Agency (IEA) predicts that transitioning economies to net zero by 2050 could lead to a sixfold increase in demand for critical minerals by over 30 million tonnes (IEA, 2021). A study conducted by the German development agency, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, 2023), projects that there could be an additional USD 100 billion to USD 260 billion in annual revenues to resource-rich governments with energy transition minerals. This raises the stakes for the administrative systems of countries with these resources, which often are low- to medium-income countries with a traditional prevalence of suboptimal financial benefit sharing from mining operations.

1.2 *Objective*

This chapter contributes to the growing discussion on metals streaming and royalty financing for mining operations, but from the perspective of the host government of the country where the mining takes place. It offers the determination of a framework for analysing the impact of metals streaming and royalty financing on government revenue and offers policy considerations via which to address the potential challenges and risks posed by the expected growth in demand for minerals in the energy transition.

3 It is important to note that not all metals streaming or royalty arrangements are linked to illicit financial flows, as many are legitimate and commonly used practices, oftentimes through publicly listed companies. However, the complexity and confidentiality associated with some of these financial arrangements may create opportunities for abuse, especially given the anticipated growth in mining activity.

The chapter considers the key features, advantages, and disadvantages of these alternative funding options for mining projects, and then develops an illustrative model to demonstrate their potential impact on government revenues. This forms the basis on which to identify the key challenges, and the policy considerations when addressing them.

2 Metals Streaming and Royalty Financing: Overview and Key Features

Alternative financing methods for mining projects, particularly metals streaming and royalty financing, have grown significantly over the past decade, and are understood to represent over USD 8 trillion in assets under management (Mareels, Moore and Vainberg, 2021). Their origins are not necessarily new, but the notable application of royalty financing for large mining operations is said to have emerged in the 1980s, through the establishment of companies such as the Franco-Nevada Mining Corporation, which, in 1986, acquired their first royalty stream (Careaga, 2012).

Both metals streaming and royalty financing have become increasingly relevant in the mining industry over the past few decades, with metals streaming becoming more popular since the turn of the twenty-first century. These financing mechanisms have gained popularity among mining companies, particularly small- and medium-scale companies, and during periods of economic uncertainty and volatile metal prices. For these companies, these financing options provide an alternative to traditional debt or equity financing, allowing them to access capital while minimising financial risks.⁴

2.1 *Key Features of Metals Streaming and Royalty Financing Arrangements*

2.1.1 Metals Streaming

In a metals streaming agreement, a streaming company provides upfront financing to a mining company. In exchange for this capital infusion, the streaming company gains the right to purchase a portion of the mining project's future metal production at a predetermined fixed price (Carmichael and

4 It is useful to note that, in practice, the principles and features of metals streaming are similar to the practice of resource-backed loans in the oil and gas industry. For example, commodity traders act as financiers where they offer loans either using future oil shipments as collateral or using a portion of the oil shipments as a form of repayment. See, for example, George and Zhdannikov (2016), Farchy and Blas (2021) and Trafigura (2020).

Edmonson, 2015). This fixed price is often set at a significant discount to the prevailing market price of the metal, allowing the streaming company to lock in a cost advantage. The mining company continues to operate the mine and is responsible for exploration, development, and production activities. The streaming company does not participate in operational aspects but may have certain off-take rights to purchase and market the metal production.

Once the mining project is operational and begins producing metals, the streaming company receives its predetermined share of the metal produced. This continues until the streaming company has received the agreed quantity of metal, as specified in the contract.

Metals streaming arrangements are usually long term, with agreements spanning several years or even decades. The streaming company's revenue primarily comes from the difference between the fixed purchase price and the market price of the metals when sold. If metal prices rise above the fixed price, the streaming company benefits from the upside potential.

2.1.2 Royalty Financing

Royalty financing, also known as mining royalties or metal royalties, involves a mining company granting a royalty company the right to receive a percentage of the revenue generated from the sale of metals produced from a specific mining project.

Unlike metals streaming, the royalty company provides upfront capital to the mining company but typically does not receive its reward in metals. Instead, it receives a royalty based on a percentage of the gross sales revenue from the metals produced and sold. The royalty rate remains constant, but the actual royalty amount varies depending on metal prices and production levels (Hill, 2013).

The mining company retains full control over the mining project's operations and decision-making. The royalty company does not have ownership or participation in exploration, development, or production activities. Royalty payments are typically made on a regular basis (monthly, quarterly, or annually) and are calculated based on the gross value of metal sales. The royalty is treated as an expense for the mining company, reducing its taxable income.

While metals streaming and royalty financing are similar in terms of the provision of an alternative source of capital for the mining company, they have distinct characteristics and contractual features. These are highlighted in Table 4.1.

The following examples provide more insight into how metals streaming and royalty financing agreements work. They are hypothetical examples drawn from known metals streaming and royalty financing agreements and are simplified for illustrative purposes.

TABLE 4.1 Distinguishing features of metals streaming and royalty financing

	Metals streaming	Royalty financing
Nature of the agreement	The streaming company provides upfront capital to the mining company in exchange for the right to purchase a percentage of the future metal production at a predetermined fixed price. The streaming company becomes entitled to receive a portion of the mined metal (usually at a discount to market price) until the agreed quantity is delivered.	The mining company grants the royalty company the right to receive a percentage of the revenue generated from the sale of metals produced from a particular mining project. The royalty company typically does not receive any metal from the mining operation. Instead, it receives a share of the revenue (royalty) based on the gross sales of the metals.
Degree of involvement in operations	Streaming companies often have greater involvement in the mining project. They may participate in off-take agreements, have a say in certain operational decisions and provide technical expertise to optimise the extraction process.	Royalty companies typically do not participate in the operational aspects of the mining project. They do not have ownership or control over the mining operation and are not involved in day-to-day decision-making.
Price determination	In streaming agreements, the price at which the streaming company purchases the metal is fixed at the time of the agreement. This fixed price is often set at a discount to the prevailing market price of the metal.	Royalties are typically based on a percentage of the gross sales revenue from the sale of metals. The royalty rate remains constant, but the actual royalty amount received by the royalty company varies with changes in metal prices and production levels.

TABLE 4.1 Distinguishing features of metals streaming and royalty financing (*cont.*)

	Metals streaming	Royalty financing
Risk–return profile	Metals streaming offers more direct exposure to the mining operation's production levels and metal prices. The streaming company shares both the upside potential and the downside risks associated with fluctuations in metal prices and production.	Royalties provide a more stable income stream for the royalty company, as the royalty is based on revenue generated from metal sales. The royalty company does not bear the same level of operational and commodity price risks as the mining company.
Tax treatment	From an accounting perspective, metals streaming arrangements are often treated as a form of debt for the mining company. The upfront payment from the streaming company is considered a liability, and the future metal deliveries are treated as repayments of this debt.	Royalty payments are treated as expenses for the mining company, reducing its taxable income. For the royalty company, the received royalties are treated as revenue.

SOURCE: ADAPTED FROM MONK, EDWARDS AND BRAY (2014) AND TURNER (2015)

Illustrative Example—Nickel Streaming Agreement

The mining company (MiningCo): MiningCo operates a nickel mine with substantial proven reserves. The company requires additional funding to expand its mining operations.

The streaming company (StreamCo): StreamCo is looking to invest in mining projects and gain exposure to the potential upside of nickel production without directly engaging in mining activities.

Terms of the streaming agreement:

- Streaming percentage: StreamCo agrees to provide MiningCo with USD 50 million upfront in exchange for the right to purchase 20 per cent of the nickel produced from the mine over a specific period, say ten years.
- Fixed price: the price for the nickel is set at USD 10,000 per tonne, regardless of the prevailing market price during the streaming agreement's duration.

Mining operations and production: over the next ten years, MiningCo successfully operates the nickel mine, producing a total of 500,000 tonnes of nickel during the streaming period.

Metal price movement: At the start of the streaming agreement, the market price of nickel is USD 10,500 per tonne. Over the 10-year period the market price of nickel fluctuates, and increases to USD 11,000 per tonne.

Revenue calculation: MiningCo delivers 100,000 tonnes (20 per cent of total production) of nickel to StreamCo under the streaming agreement. StreamCo resells the nickel in the market at the prevailing market price.

MiningCo generates revenue of USD 1 billion from selling 100,000 tonnes of nickel to StreamCo (100,000 tonnes x USD 10,000 per tonne). However, if MiningCo had sold the same 100,000 tonnes of nickel at the final market price of USD 11,000 per tonne, it would have earned USD 1.1 billion in revenue. StreamCo resells the nickel in the market at the final market price of USD 11,000 per tonne, generating revenue of USD 1.1 billion, and achieving a profit of USD 100 million.

The host government's royalty revenue will be based on MiningCo's revenue from selling nickel to StreamCo at the fixed price.

Illustrative Example—Nickel Royalty Financing Agreement

MiningCo is the same as in the streaming example above.

The royalty financing company (RoyaltyCo) is a financing company that specialises in providing royalty-based funding to mining projects,

aiming to earn a return based on a percentage of the revenue generated by the mining company.

Terms of the royalty financing agreement:

- RoyaltyCo agrees to provide MiningCo with USD 50 million in financing in exchange for a royalty payment of 2 per cent on the revenue generated from nickel sales for a specific period of ten years.
- Unlike the streaming agreement, there is no fixed price at which the nickel is sold under the royalty financing agreement. The royalty is calculated based on the actual revenue generated from nickel sales.

Over the next ten years, MiningCo produces 500,000 tonnes of nickel during the royalty financing period, and at the start of the royalty financing agreement the market price of nickel is USD 10,500 per tonne. Over the 10-year period the market price fluctuates, and increases to USD 11,000 per tonne. MiningCo sells nickel in the market at prevailing market prices and generates USD 5.5 billion in revenue from the sale of 500,000 tonnes of nickel. Based on the royalty percentage of 2 per cent on revenue, MiningCo pays RoyaltyCo a total of USD 110 million in royalties (2 per cent of USD 5.5 billion) over the 10-year period.

The host government's revenue is based on the actual revenue generated from selling all the 500,000 tonnes of nickel irrespective of the prevailing market price.

The above illustrations highlight some of the possible advantages and disadvantages of either financing arrangement, particularly from the perspective of the mining company and the host government seeking a fair share of the financial benefits from the extraction of its minerals.

2.2 *Advantages and Disadvantages*

Metals streaming and royalty financing offer distinct advantages and disadvantages to mining companies, investors, and to government owners of the mining assets. These alternative forms of financing provide needed early—and potentially cheaper—capital for project development, and typically do so without having to dilute the ownership of the mining company. On the other hand, and in addition to other factors, they potentially limit the extent to which both the mining company and the government benefit from increases in profitability due to higher prices. The following tables, Tables 4.2 and 4.3, describe these advantages and disadvantages in more detail.

While metals streaming provides upfront capital and a potential hedge against price risk for producers, it could also limit the upside potential for both

the mining company and the host government. On the other hand, royalty financing offers stable income streams and diversification opportunities for investors but may lack direct exposure to metal price increases.

For the governments of resource-rich countries where the mining operations take place, the advantages of such alternative forms of financing include increasing momentum for mining activity, stimulating investment, and the related potential multipliers from such investments. Another advantage for governments is the potential for earlier revenue flows if these forms of financing result in earlier investment and earlier production. This can prove significant especially in low-income countries. In addition to the potential for reduced revenue and participation in the upside, the disadvantages include potential reduction in oversight capability for the project, and exposure to challenges and risks ranging from a lack of transparency to risk of pricing manipulation (see Section 4).

3 Framework for Analysing the Impact of Metals Streaming and Royalty Financing on Government Revenue

3.1 *Government Revenue Impact*

The net impact of these alternative forms of financing, from a government perspective, is a limit on the government's ability to participate in the upside when mineral prices rise. This may not necessarily always be the case for metals streaming or royalty financing compared to the more traditional forms of equity and debt funding, or compared to other opportunity costs that may be particular to each country's circumstance.

Each option has implications and trade-offs for policymakers to consider, particularly with regard to the incidence of fiscal burden—so, when the financial benefit-sharing instruments take effect. Metals streaming typically reduces the government's share of early revenues from mining royalties, while the impact of royalty financing is typically felt later on in the process and on pre- or post-tax profits.

This section offers a simplified approach to assessing the potential impact of metals streaming and royalty financing on government revenues. Subject to the availability and quality of information, a revenue impact ratio can be determined by comparing the potential revenues to the government from more traditional forms of financing with the potential revenues to the government from metals streaming or royalty financing.

Consider a mining investment model whose anticipated production profile, anticipated costs, forecast mineral prices, expected revenues, financing

TABLE 4.2 Advantages and disadvantages of metals streaming

Advantages	Disadvantages
<p><i>Non-dilutive capital:</i> Metals streaming provides mining companies with upfront capital without diluting existing shareholders' ownership. This allows mining companies to finance their projects without issuing additional equity, preserving shareholders' value. Metals streaming provides mining companies with an attractive financing option, as it offers upfront capital without the need for diluting equity or incurring debt. For the streaming company, it presents an opportunity to secure a consistent supply of precious metals at discounted prices.</p>	<p><i>Loss of upside potential:</i> If metal prices increase significantly above the fixed price specified in the streaming agreement, mining companies and, by implication, governments may miss out on potential profits they could have gained by selling metals at higher market prices.</p>
<p><i>Convenience:</i> Streaming companies typically offer financing at a discount to the prevailing market price of metals. As a result, mining companies may secure easier access to funding, sometimes at a lower cost, compared to traditional debt financing.</p>	<p><i>Reduced profit margins:</i> Streaming companies benefit from purchasing metals at a discounted fixed price, which may reduce mining companies' profit margins compared to selling metals at market prices.</p>
<p><i>Predictable revenue streams:</i> For streaming companies, the fixed-price arrangements ensure predictable future revenue streams based on the agreed-upon quantity of metal to be purchased. This offers stability and predictability in their income streams.</p>	<p><i>Complex contractual arrangements:</i> Negotiating and executing streaming agreements can be complex and time-consuming, involving extensive legal and financial due diligence. The terms of the contract must be carefully evaluated to ensure fair and equitable terms for all parties.</p>

TABLE 4.2 Advantages and disadvantages of metals streaming (*cont.*)

Advantages	Disadvantages
<p><i>Operational flexibility:</i> Mining companies can retain control over their mining operations and decision-making. The involvement of streaming companies is often limited to the off-take rights and technical expertise, allowing producers to manage their projects independently.</p>	<p><i>Ongoing commitment:</i> Metals streaming agreements often span multiple years or even decades. Mining companies are committed to delivering the agreed-upon quantity of metals, which may impact their future operational flexibility.</p>
<p><i>Hedge against price risk:</i> For mining companies, metals streaming can act as a price hedge. By selling a portion of future production at a fixed price, producers can reduce exposure to fluctuating metal prices, mitigating revenue volatility.</p>	

SOURCE: THE AUTHOR

structures and costs and government fiscal impositions (fees, royalties and taxes) have been analysed for the life of the project using the discounted cash flow (DCF) method. Such models can be analysed in scenarios that include the investment being funded by equity only, and with varying combinations of debt and other alternative forms of financing.

A revenue impact observation can be made from such analysis by comparing the total revenues to the government in a base case (e.g. assuming full equity financing or assuming a conventional combination of debt and equity) with total revenues to the government with the alternative form being considered (in this case, the metals streaming or royalty financing option). All things held equal, the higher number in the comparison could be deemed more favourable to the government.

TABLE 4.3 Advantages and disadvantages of royalty financing

Advantages	Disadvantages
<p><i>Stable income stream:</i> Royalty financing offers a stable income stream for royalty companies as royalty payments are based on a percentage of metal sales revenue. This consistently provides some measure of consistent cash flow, regardless of metal prices. They also provide early (and arguably stable) funding for the mining company to carry out its development programme.</p>	<p><i>Limited potential for upside gain:</i> Similar to metals streaming, royalty financing restricts the gains to the mining company from potential price increases as a result of having to pay the royalty company a fixed percentage of sales revenue, irrespective of changes in metal prices.</p>
<p><i>Minimal operational involvement:</i> Royalty companies do not participate in the mining project's operational activities, reducing their exposure to operational risks and complexities. This also works to the mining company's benefit in the sense that there is less operational interference.</p>	<p><i>Risk of production decline:</i> If the mining project's production declines, the royalty company's revenue will also decrease, potentially affecting its income stream.</p>
<p><i>Tax benefits:</i> Royalties paid by mining companies are considered expenses, reducing their taxable income, which can result in tax benefits for the producer.</p>	<p><i>Volatile cash flow:</i> While royalty financing offers stable income, it may still be subject to variations in production and metal prices, leading to fluctuations in cash flow.</p>

SOURCE: THE AUTHOR

3.2 *Illustrative Example of Metals Streaming's and Royalty Financing's Impact on Host Government Mining Revenues*

Using the illustration provided in Section 2.1, a simplified framework can be developed to demonstrate the revenue impact. Tables 4.4 and 4.5 summarise the calculation of the impact of a metals streaming financing option. It assumes costs, prices and revenue streams for the life of the mine, but for illustrative purposes is captured as if it were in one period.

A similar calculation can be carried out for the royalty financing option.

A third scenario can be considered, using traditional equity/debt financing. This is not included in this simplified illustration.⁵

A simple comparison of the government share of profits from each option would suggest that the metals streaming option yields a higher share of the financial benefits to the government than the royalty financing option. It is, however, important to note that both approaches can be calibrated to yield the same government share of profits. For example, changing the agreed royalty payment percentage from 2 per cent to 1.3 per cent will yield the same government share of profits as would the metals streaming option illustrated here. Both options can yield the same level of fiscal burden, but they differ in incidence.

In this illustration, and typically, metals streaming reduces the royalty income to the government compared to royalty financing, which does not. This is, particularly in the context of early fiscal receipts assurance, key to the design and implementation of fiscal regimes, especially for developing countries.

Corporate tax receipts to the government appear higher with the metals streaming approach than with royalty financing, due also to the incidence of their occurrence. However, neither financing approach negates the possibility of the project cost profile being higher or overstated and thus reducing the tax base.

Both the metals streaming and the royalty financing approach could reduce the tax base for a resource-rich country and could increase the pressure on tax administrations to limit tax leakage. In dealing with base erosion and profit shifting risks, governments are aware of the challenges associated with metals streaming and royalty financing agreements and many have taken steps to address these concerns, if only in a more general sense. Many countries have transfer pricing regulations, for example, that require companies to use arm's-length prices in their transactions with related parties. However, enforcing

5 Also not included in this illustration is the potential impact of different discount rates for the government and the investor. These are excluded for simplicity.

TABLE 4.4 Distribution of royalties and taxes based on a metals streaming arrangement

Key assumptions	Amount	Description
Volume of mineral produced	500,000	Assumed volume of minerals produced, in tonnes
Fixed price per tonnes	USD 10,000	Assumed agreed fixed price per tonne for the streaming volumes
Stream percentage agreed	20%	Assumed agreed percentage of minerals produced to deliver to StreamCo
Stream volume agreed	100,000	Calculated volume of minerals (in tonnes) based on stream percentage agreed
Price (per tonne) at the end of period	USD 11,000	Assumed market price of mineral (per tonne) at the end of the period
Government royalty rate	5%	Ad valorem royalty rate assumed
Corporate tax rate	30%	Corporate tax rate assumed
Costs and allowable deductions	40%	Assumed costs and allowable deductions as a percentage of minerals produced
<i>Calculation of total revenues to the government</i>		
Gross revenues (total)	USD 5,500,000,000	Volume of minerals produced multiplied by assumed market price at period end
Streaming revenues from stream volumes at agreed price	USD 1,000,000,000	Agreed fixed price multiplied by agreed stream volume
Streaming revenues from stream volumes at period end price	USD 1,100,000,000	Agreed stream volume multiplied by assumed market price at period end
Streaming profit for StreamCo	USD 100,000,000	Difference between streaming revenues at agreed price and at period end price
Available revenues for benefit sharing between MiningCo and the government	USD 5,400,000,000	Difference between gross revenues (total) and streaming profit for StreamCo

TABLE 4.4 Distribution of royalties and taxes based on a metals streaming arrangement (*cont.*)

Key assumptions	Amount	Description
<i>Less government royalty</i>	USD 270,000,000	5% of available revenues for benefit sharing
Net revenue	USD 5,130,000,000	Available revenues for benefit sharing <i>less</i> government royalty amount
<i>less</i> Costs and allowable deductions	USD 2,052,000,000	Costs and allowable deductions fraction multiplied by net revenue
Taxable income/profit	USD 3,078,000,000	Net revenue <i>less</i> calculated costs and allowable deductions
<i>Less corporate tax</i>	USD 923,400,000	Corporate tax rate multiplied by taxable income/profit
Net profit	USD 2,154,600,000	Taxable income <i>less</i> corporate tax amount
MiningCo share of profits	USD 2,154,600,000	Net revenue, <i>less</i> costs and allowable deductions, <i>less</i> corporate tax
Government share of profits (R1)	USD 1,193,400,000	Royalty <i>plus</i> corporate tax

SOURCE: THE AUTHOR

these regulations can be complex, as metal stream financing and royalty agreements generally have unique features and there are few publicly available for benchmarking to help define and strengthen their regulation.

The challenges and risks that governments must mitigate in this regard are not new. They are summarised in the following section. They are, however, arguably likely to be more pronounced given the background provided in Section 1.1 with regard to growing demand for critical minerals and the potential revenue streams that would likely be created as a result of rapid increases in exploration and production activity. The more alternative financing tools such as metals streaming and royalty financing are introduced, the more resource-rich governments are exposed to the risk of losing out on potential revenues, particularly in the event of high metals prices.

TABLE 4.5 Distribution of royalties and taxes based on a royalty financing arrangement

Key assumptions	Amount	Description
Volume produced	500,000	Assumed volume of minerals produced, in tonnes
Initial mineral price per tonne	USD 10,500	Assumed initial price per tonne at the start of the agreement
Royalty payment percentage agreed	2%	Assumed percentage of revenue generated from mineral sales for the agreed period
Royalty volume implied	10,000	Calculated volume of minerals (in tonnes) based on royalty payment agreed
Price at the end of period	USD 11,000	Assumed market price of mineral (per tonne) at the end of the period
Government royalty rate	5%	Ad valorem royalty rate assumed
Corporate tax rate	30%	Corporate tax rate assumed
Costs and allowable deductions	40%	Assumed costs and allowable deductions as a percentage of minerals produced
<i>Calculation of total revenues to the government</i>		
Gross revenues (total)	USD 5,500,000,000	Volume of minerals produced multiplied by assumed market price at period end
Royalty revenues to RoyaltyCo from royalty volumes at prevailing price	USD 110,000,000	Agreed fixed price multiplied by agreed stream volume
Royalty revenues to RoyaltyCo from royalty volumes at period end price	USD 110,000,000	Agreed royalty volume multiplied by assumed market price at period end
Available revenues for benefit sharing between MiningCo and the government	USD 5,500,000,000	Unchanged. Government revenue is based on gross revenue from total volumes

TABLE 4.5 Distribution of royalties and taxes based on a royalty financing arrangement (*cont.*)

Key assumptions	Amount	Description
<i>Less government royalty</i>	USD 275,000,000	5% of available revenues for benefit sharing
Net revenue	USD 5,225,000,000	Available revenues for benefit sharing <i>less government</i> royalty amount
<i>Less costs and allowable deductions</i>	USD 2,200,000,000	Costs and allowable deductions fraction multiplied by net revenue, <i>plus</i> royalty payment to RoyaltyCo (which is a deductible cost for tax purposes)
Taxable income/profit	USD 3,025,000,000	Net revenue <i>less</i> calculated costs and allowable deductions
<i>Less corporate tax</i>	USD 907,500,000	Corporate tax rate multiplied by taxable income/profit
Net profit	USD 2,117,500,000	Taxable income <i>less</i> corporate tax amount
Mining company share of profits	USD 2,117,500,000	Net revenue, <i>less</i> costs and allowable deductions, <i>less</i> corporate tax
Government share of profits	USD 1,182,500,000	Royalty <i>plus</i> corporate tax

SOURCE: THE AUTHOR

4 Challenges and Risks for Governments

The ultimate risk faced by resource-rich governments as a result of an increase in the use of metals streaming and royalty financing arrangements is a suboptimal share of the potential benefits that will accrue from the mining operations. Specifically, the risk is of a reduction in taxable income and royalty revenue. This risk arises due to the specific structures and pricing mechanisms of these financing arrangements. It can occur through a number of channels, most of which are widely covered in the literature on base erosion and profit shifting (BEPS) (see, for example, the extensive work by the Organisation for Economic Co-operation and Development (OECD) on the Inclusive Framework for BEPS,

including OECD 2022 on transfer pricing guidelines). These channels can be summarised as follows:

1. *Absence of clear legislative rules:* This pertains to the extent to which metals streaming or royalty financing (or indeed any other form of financing) agreements are clearly catered for in the relevant legislation, particularly the income tax law. This is not immediately obvious in mining taxation laws in resource-rich countries. There is room for more clarity regarding such questions as whether the streaming or royalty transaction is to be treated as debt, if the transaction is a financial derivative contract (Turner, 2015), or what price will prevail for all minerals produced irrespective of the agreed price between the streaming company and the mining company. Depending on the jurisdiction and tax treaties in place, the structure of metals streaming and royalty financing may impact the application of withholding taxes on payments made to foreign entities. If royalties or streaming payments are structured in ways that reduce or avoid withholding taxes, the host government may lose an essential revenue source.
2. *Lack of transparency:* Most of the challenges governments face in dealing with the ultimate risk from metals streaming and royalty financing can be characterised as an information asymmetry problem. The complexity of, and lack of transparency in, metals streaming and royalty financing arrangements can make it difficult for tax authorities to assess and monitor the appropriate tax liabilities of mining and financing companies. Insufficient reporting may lead to underreporting of income and erosion of the host government's tax base. This lack of transparency may lead to difficulties in identifying potential tax risks and ensuring compliance with tax regulations. Furthermore, in jurisdictions with relatively weak regulatory and institutional frameworks for metals streaming and royalty financing, loopholes can be exploited for illicit financial activities such as money laundering.
3. *Risk of transfer pricing manipulation:* In metals streaming and royalty financing, the pricing of metals or royalties can be a point of contention, especially if there are related-party transactions within multinational corporate groups. There is a risk of transfer pricing manipulation, wherein the streaming or financing company (if a related party) sets prices at non-arm's-length levels to shift profits and reduce taxable income in the host country, leading to lower tax revenues. Also, streaming companies may engage in contractual arrangements that give them influence or control over the mining

company's operations. This control can allow the streaming company to influence the cost structure of the mining operations or dictate sales and marketing decisions, further impacting the profitability and revenues of the mining company.

4. *Risk of profit shifting and thin capitalisation:* Metals streaming deals can be used as a mechanism for BEPS, wherein multinational companies exploit gaps in tax rules to shift profits to low-tax jurisdictions (Grynberg and Singogo, 2021). Streaming companies may establish subsidiaries in tax havens to receive streaming revenues, diverting profits away from the jurisdiction where the mining operation takes place and reducing the tax base for the host government. Streaming companies may structure financing arrangements using complex intercompany transactions, which could lead to profit shifting and thin capitalisation.⁶
5. *Artificially reduced taxable income:* In metals streaming agreements, the mining company may receive upfront payments at a fixed or discounted price for future metal production. This can result in an artificially reduced taxable income for the mining company, as it recognises less revenue compared to what it would have received if it had sold metals at market prices, as illustrated in Section 3.2. The reduced taxable income leads to lower corporate income tax payments, eroding the host government's tax base. In royalty financing arrangements, the royalty payments made by the mining company to the financing company are typically deductible as operating expenses for tax purposes. However, the deductibility of royalties can result in reduced taxable income and lower tax payments for the mining company, leading to a decrease in the host government's tax base.

Governments might face challenges in predicting long-term revenue stability from metals streaming or royalty financing deals due to uncertainties in metal prices and production levels. The fixed-price nature of streaming agreements may not allow governments to fully participate in the upside during periods of high metal prices, potentially impacting budget planning and fiscal management.

In addition, the upfront payments made in metals streaming or royalty financing arrangements could be vulnerable to money laundering schemes,

6 Thin capitalisation refers to excessive debt financing relative to equity, allowing companies to deduct interest payments and reduce taxable income. This practice could result in reduced tax revenues for the host government.

where funds are illicitly transferred through complex financial networks to conceal their origin. There is also a risk of bribery and corruption in the negotiation and execution of these arrangements, which could lead to the diversion of funds for personal gain whilst bypassing regulatory scrutiny.

In general, resource-rich governments risk receiving a lower share of the economic rent from mining operations through streaming and royalty arrangements. By selling future metal production at a predetermined price, mining companies can potentially retain a greater share of the profits generated during periods of high metal prices, reducing the government's ability to capture resource rents. By deducting repayments in accordance with the royalty financing deal, the government's tax base is limited and the financial benefit-sharing outcome is potentially suboptimal. The following section identifies possible policy considerations for governments.

5 Conclusion and Policy Considerations

As previously stated, the financial benefit-sharing challenges potentially exacerbated by an increase in the deployment of alternative financing methods such as metals streaming or royalty financing are not necessarily new to governments. What is different is the scale at which these challenges will manifest themselves, particularly given the growing demand for critical minerals to fuel the energy transition.

To address these challenges, governments need to strengthen their regulatory frameworks, enhance tax enforcement, and foster greater transparency in the negotiation and execution of metals streaming agreements. Collaborative efforts between governments, international organisations and mining companies remain crucial to the mitigation of the risks associated with metals streaming and royalty financing and ensuring fair and sustainable outcomes for all stakeholders.

At the heart of the policy considerations of efforts to resolve these challenges and risks is reducing information asymmetry between the government, the mining company and the streaming or royalty company. One important way to do this is to strengthen tax legislation and enforcement mechanisms. Implementing anti-avoidance rules, such as interest limitation rules (see, for example, the OECD list of countries with various forms of interest limitation rules), can limit the ability of metals streaming and royalty financing companies to exploit tax loopholes. Other features that would strengthen the legislation include clear minerals pricing rules, and clearer provisions regarding withholding taxes.

Governments can impose robust transfer pricing documentation requirements on mining and financing companies engaged in related-party transactions. This includes maintaining detailed documentation supporting the arm's-length nature of pricing in metals streaming and royalty financing agreements. Adequate documentation reduces the risk of transfer pricing manipulation and enhances tax authorities' ability to assess transactions fairly. This also includes incorporating transfer pricing methodologies featured in such instruments as advance pricing agreements into the regulatory framework.

The growth in demand for critical minerals for the energy transition, and the increasing importance of resource-rich governments ensuring they do not miss out on the financial benefits to be generated from this growth, raises the importance of natural resource taxation instruments outside of the conventional royalty and tax framework. For example, state participation (through equity ownership, state-owned enterprise direct involvement, and production sharing) is considered as one of the policy choices that could feature more prominently in the future of mining taxation (Readhead et al., 2023).

Lastly, regular audits and requests for detailed documentation from all parties (mining companies and streaming and royalty companies) to substantiate their pricing decisions are necessary to mitigate transfer pricing risk. Such documentation would include comparable transaction data, financial analyses and evidence supporting the valuation of metal prices in streaming contracts. The application of such simple assessments as the government revenue impact ratio could prove a useful additional tool in this regard. Active modelling of scenarios, using statutorily required information such as mining plans or mine development plans, can be utilised in the determination of the government revenue impact analysis or in other means of comparing options in advance of approving these transactions where the government is able to do so. This, in combination with other policy measures, could mitigate the ultimate risk of a suboptimal outcome from metals streaming or royalty financing.

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The Role of Tax Expenditures in Enabling Illicit Financial Flows

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Abstract

The role tax expenditures play in fostering or facilitating illicit financial flows has so far not been studied extensively. We provide an explorative overview of the linkages between tax expenditures and illicit financial flows in both source and recipient countries. In a second step, we focus on three kinds of mechanisms. In source countries we analyse the role of special economic zones and tax expenditures that target the extractive sector. In recipient countries we study the use of patent boxes and related mechanisms to attract intangible assets. Bilateral tax treaties, meanwhile, can act as facilitators of illicit financial flows because they provide legal devices with which to shift profits away from source countries, and add another layer of complexity to the tax system. To address the use and abuse of tax expenditures in this context, the transparency, tax certainty and simplicity of tax systems should be strengthened by any government trying to protect its tax base.

1 Introduction

Illicit financial flows (IFFs) are cross-border transfers of money or assets that have an illegal origin or are illegally transferred or used in at least one of the jurisdictions concerned.¹ They can be related to income generation as well as income management. The former refers to illicit cross-border activities that produce income, including, for instance, the shipment of illegal drugs. The latter includes illicit transactions that transfer funds that have a licit origin, as well as flows stemming from licit activity that are used in an illicit way (see

1 See Musselli and Bürgi Bonanomi (2020) for a discussion of different conceptualisations of IFFs. The authors argue in favour of a broad interpretation of what constitutes illegal activity, including infringements of domestic doctrines or standards and of rules and legal principles that have gained widespread international recognition.

UNCTAD and UNODC, 2020, 7–8). IFFs are known to severely affect the fiscal space and drain public revenues of many low- and middle-income countries through a variety of mechanisms (Mbeki et al., 2015).

In this chapter, we argue that a specific element of public finance systems—the use of tax expenditures (TEs)—can play an important role as an enabler or facilitator of IFFs. The term ‘tax expenditure’ was introduced by the US Treasury Department in the late 1960s to denote preferential tax treatments that deviate from the benchmark or standard tax system and are applied to benefit specific groups, activities or economic sectors (see Surrey and McDaniel, 1979). Since 1975, the US has prepared annual TE reports linked to the federal budget, and a growing number of countries worldwide have been following suit (Redonda, von Haldenwang and Aliu, 2023).

TEs can be applied to income taxes—and can include corporate tax incentives to attract investment—but also to consumption taxes, wealth taxes or customs duties. They can take many forms, including exemptions, reduced rates, deductions, deferrals and tax credits. TEs are legal by definition, though their effectiveness and efficiency as mechanisms for promoting specific public policies are often questionable, as shown by a growing body of evaluations and academic research (James, 2013; Klemm and Van Parys, 2012; Kronfol and Steenbergen, 2020; Myles et al., 2014; Redonda and Axelson, 2021). The Global Tax Expenditures Database (GTED; see von Haldenwang et al., 2023) provides an overview, based on official figures, of the worldwide use of TEs, showing that they are certainly not a minor issue, worldwide average revenue forgone amounting to 3.7 per cent of GDP and a staggering 23.5 per cent of taxes actually collected. Yet to date, little research has been conducted on the role of TEs with regard to IFFs.

The present chapter explores conceptual approaches to and empirical evidence of the manifold linkages between TEs and IFFs. It focuses on three kinds of TEs that have recently attracted scholarly attention. First, in countries that suffer from illicit financial outflows (‘source countries’)² we look at special economic zones (SEZs). SEZs are geographical areas within countries where companies benefit from specific tax regimes, such as exemptions from import duties or corporate taxes (Heitmüller and Mosquera, 2021; UNCTAD, 2019).

2 This chapter uses the term ‘source countries’ to refer to countries where IFFs originate, while ‘recipient countries’ is used to refer to countries where IFFs are received (see Musselli and Bürgi Bonanomi, 2020). It should be noted, however, that in the field of international taxation the term ‘source country’ is also used to refer to countries where income is generated, as opposed to ‘residence country’, which is used to describe the country where individuals or businesses are domiciled.

Second, we examine TES related to the extractive industries. Given the long timelines of extractive projects and the often sizeable up front investments involved, governments frequently use TES to attract investment to these industries. In many resource-dependent countries, TES are not only applied through the tax code, but also through exploration or extraction contracts between governments and multinational corporations, which often contain (tax) stabilisation clauses and are characterised by limited transparency (Le Billon, 2011; Otto, 2017; Readhead, 2018).

A third kind of TES is sometimes used in countries that receive IFFs, either as final recipients or as 'transit countries' (Musselli and Bürgi Bonanomi, 2020). These TES target intangible assets, in particular through so-called patent boxes (PBs) and other TE provisions for research and development (R&D) (Alstadsæter et al., 2018; Haufler and Schindler, 2022).

To link these various TES to the topic of this thematic volume, we base our argument on Carbonnier and Mehrotra's (2018) distinction between the 'push' and 'pull' factors driving IFFs. The former refers above all to the existence of conditions that facilitate the illicit outflow of funds from source countries, such as weak governance structures, high levels of corruption, and a lack of oversight, transparency and monitoring. Pull factors, meanwhile, are primarily located in countries that receive such funds, and include financial secrecy and special tax incentives granted to inflowing capital. Obviously, corruption and weak governance structures can play a role in receiving countries as well, for instance by facilitating regulatory capture on behalf of powerful corporate interests (Laffont and Tirole, 1991).

Related to the three kinds of TES mentioned above, the chapter also discusses the relevance of bilateral tax treaties, which 'set boundaries on when and how each country is entitled to tax income earned in one treaty partner by residents of the other, most usually multinational companies' (Hearson, 2018, 235). Regulations typically refer to withholding taxes on dividends, interest payments, royalties, service fees, etc. that a source country can levy on residents of the treaty partner. In addition, treaties often cover permanent establishment (PE) criteria and the tax treatment of particular types of income such as capital gains, pensions, social security payments and salaries (Hearson, 2018). The Tax Treaty Explorer database counts more than 3,000 such treaties currently in force worldwide (Hearson, 2022). The specific provisions contained in tax treaties are frequently omitted from governmental TE reports. This lack of transparency hinders comprehensive evaluation and facilitates the use of treaties for aggressive tax planning and IFFs (Janský and Šedivý, 2019; Beer and Loeprick, 2021).

The present chapter identifies numerous ways in which TES can in fact lead to an increase in IFFs. Generally speaking, the lack of transparency associated with the use of TES in many countries seems to be a key enabling factor. However, the chapter also shows that, beyond anecdotal evidence, the evidence base of causality statements in this context is rather thin. Endogeneity concerns and a lack of relevant data explain this picture. The remainder of the chapter is organised as follows: Section 2 introduces three main conceptual mechanisms that link the use of TES to IFFs. Section 3 takes a closer look at TES in source countries while Section 4 focuses on TE use in recipient countries. Section 5 concludes by discussing the policy implications of the chapter's findings in light of recent international developments, most notably the Global Anti-Base Erosion (GLOBE) approach introduced by the OECD (OECD, 2022a).

2 TES as Enablers of IFFs

TES are sometimes employed as a defensive mechanism in international tax competition, whereby governments feel compelled to grant investors extensive tax holidays and exemptions to counter similar moves from competitor states (von Haldenwang et al., 2021; Waiswa and Rukundo, 2023). This is one of the main drivers of the so-called race to the bottom in corporate taxation (Abbas and Klemm, 2013; Genschel and Seelkopf, 2016). With regard to IFFs, three aspects in particular deserve discussion: (i) the abuse of TES, (ii) the weakening of public control, oversight and monitoring capacities as a consequence of TES, and (iii) the lack of transparency created by the combination of and interactions between TES.

First, corporate tax incentives are a pull factor by which countries seek to attract capital inflows. As a side effect, however, they may create additional opportunities for multinational corporations to engage in aggressive tax planning. Though TES are not always and necessarily connected to IFFs, they may be used to facilitate such flows. For example, corporate tax incentives can spur capital 'round-tripping', 'a form of tax-induced regulatory arbitrage that involves moving capital offshore only to bring [it] back onshore again in the guise of FDI [foreign direct investment], so as to benefit from preferential tax treatment' (Buckley et al., 2013, 120). Round-tripping has been observed in China (Kar and Freitas, 2012), but also in the US (De Simone, Lester and Markle, 2020) and elsewhere (Damgaard, Elkjaer and Johannesen, 2019). The 'Mbeki report' (Mbeki et al., 2015, 88–89) lists several types of IFFs that are at least partly based on TE abuse, in particular the overpricing of exports, imports, investments and related-party borrowing.

A second mechanism involves weakened state control over private sector corporations due to TES. Companies may use their financial, technological or market power to obtain particular preferential tax treatments, sometimes by means of illicit practices (above all, corruption). This is especially the case for large corporations operating in the extractive sector, where TES are often granted via bilateral contracts with inbuilt stabilisation clauses and limited transparency (Le Billon, 2011; Mosquera Valderrama, 2021; Readhead, 2018). Such TES do not per se cause IFFs. A lack of transparency and the excessive use of TES may, however, result not only in the lowering of the tax burdens of companies, but also in reductions in the oversight and monitoring capacities of the state.

It can be argued that some types of TES have a stronger impact on oversight and monitoring than others. For example, tax holidays may, for companies, lead to lower reporting obligations and, for revenue authorities, to lower monitoring responsibilities over a given period. As a consequence, corporations may find it easier to dodge taxes by means of illicit actions. In contrast, tax deferrals and specific loss carry-forward regulations require both companies and revenue authorities to keep track of operations for the period covered by the TE in question.

Also, tax authorities sometimes deliberately lower reporting requirements in the name of simplicity and efficiency. In Zimbabwe for instance, corporations are required to declare the amount of corporate tax incentives granted to them as one single item on their income tax return form. This makes it much more difficult for the authorities to monitor and evaluate the use of individual TES.³ This mechanism also commonly applies in free zones, where companies may be fully exempt from custom and internal duties as well as other charges. On the one hand, this reduces the filing requirements and compliance costs of companies established within the zone. On the other, the absence of tax revenue makes the monitoring of economic activity in these zones unattractive for revenue authorities, as other monitoring and investigation avenues might render higher returns in terms of tax revenue recovery. Indeed, it can be assumed that tax and customs authorities are more motivated to monitor and enforce tax rules in cases where additional revenues are at stake—such as the control of imports subject to excise tax—than they are to enforce and monitor potentially exempt activities within a free zone.

3 Information obtained from the Zimbabwean Revenue Authority (ZIMRA) in the context of the project 'Pilot study on the evaluation of the impact of tax expenditures in mining in Zimbabwe' (2022–23), financed by the German development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

In a third mechanism, combinations of TEs and the manifold interactions between them may open additional avenues for corporate or private actors engaged in illicit activities. TEs have the property of making tax systems more complicated and less transparent. As Fuest and Riedel (2009, 46–47) state, ‘there is widespread concern that tax expenditures are more difficult to control, more vulnerable to capture by lobby groups or even corruption and therefore more likely to lead to budget imbalances and governance problems than direct government expenditures’. These characteristics tend to play into the hands of actors engaged in IFFs, because they make it easier for private actors to exploit cross-border differences in tax treatments while at the same time making it more difficult for governments to control the impact of individual TE provisions and initiate countermeasures in cases of TE abuse.

As shown by the GTED (see Redonda, von Haldenwang and Aliu, 2023), a large number of countries routinely manage 100 or more individual TE provisions. This is the case for several high-income countries, including Australia (228 provisions reported in 2020), the USA (328 provisions), South Korea (373) and Italy (513), upper-middle-income countries such as Brazil (230), Morocco (254) and Türkiye (225), but also some low- and lower-middle-income countries, such as Benin (146 provisions in 2019), Madagascar (247 in 2016) and Senegal (115 in 2014). In addition, elected representatives are often confronted with weak or inconclusive reporting, making it more difficult for them to understand and vote on tax laws, which are regularly tied to government budgets. Again, there is no direct causal pathway from TE complexity to IFFs, but it is fair to assume that the mere proliferation of TEs and the resulting complexity of tax systems might be another enabling factor for IFFs, undermining transparency and the accountability of public finances.

Against this backdrop, we would expect higher levels of TE use—measured, for instance, in revenue forgone as a percentage of GDP or in numbers of TE provisions—to be positively associated with IFFs, proxied, for instance by data on trade misinvoicing (GFI, 2021) or tax secrecy (Cobham et al., 2021). However, sample bias due to TE under-reporting may compromise the identification of patterns at this aggregate level, as the same factors may drive IFFs and TE under-reporting (see von Haldenwang et al., 2023, 76).

There is another core feature of TEs that relates them to the practice of IFFs: TEs lower the effective marginal tax rate of firms in a given jurisdiction. According to Carbonnier and Mehrotra (2018, 5), corporate tax-rate differentials between different jurisdictions have been identified as a ‘main driver’ of IFFs. The authors identify two major channels of trade-related IFFs—trade misinvoicing and transfer mispricing. With regard to the latter, illicit behaviour

is above all motivated by the desire to exploit differences in taxation levels (Beer, de Mooij and Liu, 2020).

It should be noted that some of the context factors discussed in this section have also been identified by the OECD project on base erosion and profit shifting (BEPS) initiated in 2013, and in particular by BEPS Actions 5, on harmful tax practices, and 6, on tax treaty abuse (OECD, 2013; 2023). However, while the BEPS agenda addresses important weaknesses of international taxation, the use and abuse of TES in particular has until recently largely remained outside the focus of the project. It is only in the context of the above-mentioned GLOBE approach that the use of tax incentives for investment is receiving more scrutiny (González Cabral et al., 2023b).

3 TES in Source Countries

This section focuses on two kinds of TES in source countries: SEZs and TES for the extractive industries.

3.1 *The Role of SEZs*

Many countries establish SEZs to attract FDI and promote industrial growth. Typically, these zones combine several kinds of TES, above all exemptions from customs duties and value-added tax (VAT) on imported goods as well as TES related to corporate income tax (CIT), including exemptions, deferrals and reduced CIT rates. The 2019 World Investment Report counts nearly 5,400 SEZs worldwide, with total numbers still growing (UNCTAD, 2019, 128). In addition, almost 8,400 single-enterprise zones (so-called free points) are to be found across 18 economies, according to the report. The type and number of SEZs varies widely across countries. Some have only a small number of SEZs while others may have hundreds. More than 2,500 such zones exist in China alone, many of them at the provincial level. With regard to the various types, some SEZs may seek to enhance exports of certain products or those of certain sectors, while others aim at attracting FDI to certain geographical areas. Moreover, UNCTAD (2019, 135) observes ‘numerous examples of zones within zones’—so, multilayered structures where specific regimes are embedded in others, thus fadding to the overall complexity of TES.

Variations in the total numbers, types and patterns of embeddedness of SEZs may contribute to some of the push factors identified by Carbonnier and Mehrotra (2018), such as lack of transparency, lack of oversight and monitoring, and weak governance. The UNCTAD’s *World Investment Report 2019* highlights that one of the negative financial impacts of SEZs results from ‘the

misuse of zones for illicit financial flows and trade misinvoicing, which can be an important problem in zones with laxer government controls' (UNCTAD, 2019, 186). More specifically, SEZs can act as enablers or facilitators of IFFs through several channels:

First, related to the argument regarding TE complexity developed in the previous section, SEZs may act as a 'black box' in which businesses often benefit from a wide range of TEs, which makes it very difficult (if not impossible) for governments to assess which TEs are cost effective and which are redundant or even harmful. This makes such governments vulnerable to lobbying and political interference, as shown, for instance, by Daude, Gutierrez and Melguizo (2017) with reference to the Dominican Republic.

Second, as discussed by Heitmüller and Mosquera (2021), SEZs can result in BEPS. This happens, for example, if a company has a legal entity within the SEZ while the productive structure is located elsewhere, allowing the company to shift profits to the legal entity inside the SEZ and benefit from the preferential tax treatment on offer. In this sense, 'a company established in an SEZ can fulfil a similar function as a tax haven company' (p. 478). Based on BEPS Action 5 as well as on the European Union Code of Conduct for Business Taxation, an SEZ can be considered as harmful if there is insufficient economic substance with regard to employees and assets. These rulings and subsequent peer reviews have led several Latin American governments, for instance, to modify their SEZ regimes (p. 486). To the best of our knowledge, there has been, however, only limited research on the impact these modifications had with respect to profit shifting through SEZs.

Third, provisions included in tax treaties may interact with tax concessions available under SEZ regimes in source countries. Companies established in SEZs often undertake activities related to international commerce and logistics, such as commodities brokerage, shipping, warehousing, packaging and sorting, and insurance. In some countries, bilateral tax treaties benefit SEZ companies as well, on top of the tax rules of the SEZ itself. This means that companies engaged in merchandise storage, international shipping or services linked to SEZ businesses may, for instance, benefit from certain treaty-based exclusions under PE rulings, resulting in non-taxation of active business income in the source country. In countries where only little resources are available to enforce treaty provisions, tax advisers and companies have additional leeway to exploit these interactions between SEZ regulations and treaty provisions, generating IFFs.⁴ Not least, treaty-based tax rules in the source country

4 When a company resident in a country undertakes activities in another country, there are often minimal criteria under domestic law that determine whether such company is a tax

can be directly linked to tax advantages available to companies in countries seeking to attract financial flows if those countries are at the same time the hosts of investor companies and recipients of IFFs (see, for example, Aidha et al., 2019 with reference to the Netherlands and Indonesia).

Fourth, a report issued by the Financial Action Task Force (FATF) shows that SEZs can be instrumental in facilitating the movement of illegally obtained resources and related financial flows (FATF, 2021, 56). Domestic aggregators, refiners and preprocessing businesses act as 'supply chain choke points', where licit and illicit goods are commingled to facilitate the laundering of proceeds from illegal extraction or environmental and human rights crimes (FATF, 2021, 55). SEZs provide a variety of channels that facilitate illicit financial outflows from originating countries, adding layers of transactions on illegally extracted resources, and ensuring no or minimal taxation under secretive conditions (FATF, 2021; FATF and Egmont Group, 2013; OECD, 2022b).⁵ In Botswana, for instance, SEZs dedicated to diamond processing are subject to preferential tax treatment while ensuring access to the international financial system (Masuku-Chimbombi, 2023).

3.2 *The Role of TEs for the Extractive Industries*

Countries that are rich in natural resources frequently use TEs to promote sectoral growth. This is particularly true of countries that depend on the inflow of capital and technology to develop the sector in question (Coulibaly and

resident in the host country. If a company is not considered a tax resident domestically, its active business income is not subject to tax. In tax treaties, countries may agree on a different definition of PE that applies specific conditions or excludes certain activities from tax residence determination. For instance, a treaty may provide that construction activities are only considered to constitute a PE (and thus trigger tax residence) when the construction is carried out over more than 12 months. The definition of PE and applicable exclusions are found in Article 5 of the OECD and UN model tax treaties (OECD, 2017; UN, 2017).

- 5 It should be noted that this is not only an issue of originating countries. For example, freeports provide a tax-free environment in which high-value assets (HVAs) can be stored or transacted, with minimal or non-existing reporting obligations. The location and infrastructure of freeports enables the secure storage of luxury goods with maximum discretion for international clients. Switzerland (Geneva), Singapore, Luxembourg and the United States (New York) are host to some of the world's most renowned freeports. Freeports can be used to avoid or evade taxes levied on transactions involving HVAs, or to launder the proceeds of crime through HVA transactions, blurring the origin of funds so that they may be declared at the end of the process as income from HVA trade. The lack of reporting data under these regimes makes it exceedingly difficult to assess revenue forgone or transnational spillover effects. Commonly presented as hubs for high-end trade, freeports in the global North attract and catalyse IFFs, allowing secretive trade and storage on behalf of HVA owners scattered around the world. See Helgadóttir (2020) for further details on the use of freeports.

Camara, 2022).⁶ As observed by Le Billon (2011, 6), ‘contracts are frequently negotiated not with resource companies in their home country but with subsidiaries incorporated in low- or no-tax jurisdictions. This insures companies against tax payments agreed under bilateral tax treaties. Profits routed through the subsidiaries’ low-tax jurisdictions are then passed on to the company’s group, often through the proceeds of high-interest loans, in order to also avoid taxes in the home country’.

Mining investors may change their behaviour in response to tax incentives as part of their tax planning strategies, significantly increasing the risk of BEPS. According to Readhead (2018), tax incentives offered in the form of income tax holidays, export processing zones (EPZs), royalty-based incentives, withholding tax reliefs on interest services, cost-based incentives and fiscal stabilisation guarantees entail a particularly high risk of behavioural response by mining investors. For instance, if a subsidiary of a mining corporation is set up in an EPZ that offers reduced tax rates, there is an incentive for the mining company (subject to the standard tax rate) to underprice its minerals in order to reduce its taxable income and shift profits to the subsidiary in the EPZ.

The frequent use of stabilisation clauses in exploration or extraction contracts explains, to a certain extent, the lack of flexibility that governments often face when it comes to modifying the use and design of TES. IMF et al. (2015, 29) discuss the use of stabilisation clauses and state that ‘such stability provisions [...] create an uneven playing field between old and new investors and can lead to significant distortions. Such situations should not last for too long. Government[s] might therefore need to renegotiate existing incentive provisions or provide reasonable, time-bound incentives to new investors’. However, if these stabilisation agreements are not disclosed, they cannot be subject to independent analysis and evaluation (Mosquera Valderrama, 2015).

Beyond stabilisation agreements, the taxation of extractive activities can be largely determined by secretive contracts between governments and the relevant companies. There might be no indication under domestic law or in public documents as to the taxation rules determined by such contracts. For instance, the Botswana diamond mining sector has its tax rules determined exclusively under contract, and mining contracts in the country are not public (Masuku-Chimbombi, 2023). The complete opacity of diamond mining taxation in Botswana not only raises questions as to whether the country is

6 While granting incentives to attract foreign direct investment is common practice, the available empirical evidence casts doubt on the effectiveness of such measures. See von Haldenwang et al. (2023, 73–75) for further details.

properly mobilising domestic resources from its natural wealth, it also conceals the sector under a veil of secrecy that may promote corruption and IFFs.

In such contexts, tax treaties also play an enabling role in IFF outflows derived from extractive activities. Beyond specific PE regulations, discussed in the preceding section, a relevant provision in tax treaties concerns the taxation of capital gains (Article 13 of the UN and OECD model tax conventions; see OECD, 2017; UN, 2017). In general, countries retain the right to tax income generated upon the disposal of assets in their territory, and in particular immovable assets such as subsoil natural resources, which are traditionally tied to national sovereignty. However, under tax treaties signatory countries may relinquish that right indirectly by giving up the right to tax gains on the disposal of shares in companies or other legal vehicles owning domestic immovable property when those shares are bought or sold by a resident of a treaty partner country.

For instance, according to the Tax Treaty Explorer database (Hearson, 2022), the treaties in force linking Botswana with Mauritius and with South Africa prevent the taxation in Botswana of capital gains from the sale, by Mauritian or South African residents, of shares in a partnership or trust with substantial mining rights in Botswana. Thus, although under Article 31(2) of the Botswana Income Tax Act these gains would be subject to domestic tax (BURS, 1995), provisions contained in these treaties award exceptional treatment to indirect sales of mining rights, which become tax exempt in Botswana and may remain untaxed abroad—expanding opportunities for aggressive tax planning.

In the context of the mechanisms discussed so far, conflicting interpretations can give rise to disputes, where the tax authorities of source states claim that additional tax revenues are due. In particular, the analysis of treaty disputes indicates that royalties taxation is the most contentious topic, with around 12 per cent of total disputes, while 8 per cent of disputes concern capital gains taxation (Baistrocchi and Hearson, 2017, 1533). With regard to stabilisation agreements, source countries may be reluctant to make changes to the law for fear of legal disputes with companies under contract, or with their competitors (Gehne and Brillo, 2017). Thus, the prospect of international disputes may hinder the efforts of public authorities in source countries to fight IFFs derived from the extractive sector.

4 TES in Recipient Countries

In the context of IFFs, recipient countries are those that absorb financial flows from countries where income has been generated illegally, or from those where

it should legitimately have been taxed. Section 4 discusses how selected TES enable the flow of IFFs into recipient countries. Research has shown that a limited number of offshore financial centres act as transit countries (intermediating investments between countries) or final recipients (attracting and retaining foreign capital) in the global economy (Garcia-Bernardo et al., 2017). While the tax policy orientation of the latter centres is often simple non-taxation, the former commonly implement complex tax regimes offering very low or no tax to companies choosing to channel economic activities through their jurisdiction. Both IFFs related to criminal activities and those associated with aggressive tax planning use the same legal structures internationally, which allow for the decoupling of income or ownership rights from the source of those rights.

Actors engaged in criminal IFFs seek to separate illegal origins from resulting wealth. For IFFs related to aggressive tax planning, actors want to remove income from the high-tax country where it was generated and reassign it to low- or no-tax jurisdictions. TES that foster the inflow of IFFs are thus in most cases profit-based preferential regimes, which impose lower or no taxes on mobile business income, with little regard for economic activity on the ground. Typical examples of such profit-based TES are CIT holidays or exemptions granted on certain types of income. They should be distinguished from expenditure-based TES, which ensure a degree of consistency between the source of income and taxation and tend to reward reinvestment. Expenditure-based tax regimes may include, for example, deductions from taxable income or accelerated depreciation rules linked to investment activities (Meinzer et al., 2019; UNCTAD, 2022, 6).

A mechanism that has become particularly prevalent among rich countries involves the use of PBS to boost R&D and innovation. Governments subsidise R&D because the social return on R&D investment can be higher than the private return to the companies funding the R&D, causing underinvestment in R&D from a common good perspective. As described by Köhler et al. (2012), most of the literature focuses on the impact of R&D tax incentives on R&D expenditure (i.e. input additionality), only few studies analysing the effect of R&D tax incentives on innovation and economic activity (i.e. output additionality).

PBs grant preferential treatment to corporate income earned through intellectual property (IP). The first PB scheme was introduced in France in 1971. More recently, several other (mostly high-income) countries—including Belgium, China, Italy, the Netherlands, Spain, Switzerland and the UK—have also put various types of PB in place, though recent modifications in international taxation rules have affected the ability of governments to implement such regimes (see below). PB regimes vary in the tax-rate reductions they offer

as well as in their scope and eligibility criteria. In Europe, the reduced tax rates of PBs (i.e. the tax rate on corporate income for which PB benefits are granted) range from 0 per cent in Malta to 15.5 per cent in France.

Yet besides their stated policy goal, PBs have been proven ineffective in boosting R&D and innovation. Alstadsæter et al. (2018) use firm-level data for three sectors—pharmaceuticals, cars, and information and communication technology—to estimate the impact of PBs on the patent filing strategies of firms. Their results indicate that PBs have a considerable impact on attracting patents. At the same time, however, the authors conclude that PBs do not have a significant impact on real activity because multinational corporations shift the location of their patents without shifting their research operations. Indeed, transferring IP rights from related entities to affiliates in low-tax jurisdictions is one of the two practices highlighted by González Cabral et al. (2023a) as directly affecting international tax planning. The second of these practices concerns the strategic overvaluation of intangible assets within corporate groups, which allows firms to artificially inflate expenses in high-tax regions, thereby reducing taxable income. According to Neubig and Wunsch-Vincent (2018), the tax-induced mismeasurement of cross-border IP flows could amount to more than 35 per cent of global charges for the use of IP, and the figure could be even higher in high-tax rate countries.

The typical case in large firms is that the inventor is contractually obligated to assign the patent to his or her employer or a holding company, which could have its official address anywhere, including in jurisdictions commonly identified as tax havens such as the Cayman Islands or Luxembourg. Hence, the main effect of the PB discount on royalties or other IP-related profits is to attract assignees, not inventors. The country gains inventors only indirectly, should the assignee choose to use tax savings to employ more inventors in the country that offered the IP box.

The nexus approach and its more recent version, the so-called ‘modified’ nexus approach described in Action 5 of the BEPS package, are designed to counter this strategy by introducing eligibility conditions to ensure a clearer link between the income derived from IP and the expenditure incurred to develop the IP (OECD, 2015). R&D is, however, often a complex and lengthy process. Expenditure on R&D may be used for several projects. Identifying the total amounts of R&D expenditure that over the years should be allocated to a given patent is a difficult requirement to monitor. Moreover, the nexus approach would not deter firms from merely shifting their R&D investments from one jurisdiction to another rather than creating additional R&D in the country granting the tax benefit. As a result, the country implementing the PB would see domestic R&D spending go up, but the overall global investment

on R&D and, thus, innovation could remain unchanged. As discussed by González Cabral et al. (2023a), the growing disparity between where IP income is reported and where the actual R&D activities occur not only goes against the spirit of most IP legislation, it also deprives innovating nations of their rightful tax revenues.

Finally, another mechanism worth mentioning—although it is not yet the object of scientific research related to IFFs—involves tonnage tax regimes (see Selkou and Roe, 2002 for a discussion with reference to the UK). These regimes are applied by more than 20 European countries to international shipping and related activities. They assess tax liabilities based on the total tonnage of ships owned or managed by a company, not on profits. Effective income tax rates under these regimes may be as low as 0.5 to 2 per cent (Rivero, 2022), resulting in substantial revenue forgone. Tonnage tax regimes usually apply to the shipping of commodities, and related services such as loading, unloading and sorting, but may also be designed to include activities such as natural resource exploration, or resource extraction through offshore drilling. Such economic activities—whose income generation is largely unrelated to the tonnage of the vessels in question—are, for example, included in the tonnage regimes of Cyprus, Denmark, the Netherlands and Malta (TJN, 2021). Because multinational companies can largely choose where to register ships engaged in offshore resource extraction activities, tonnage tax regimes may lead to an—arguably illicit—under taxation of extractive activities. Aggressive tax planning based on these regimes is facilitated by jurisdictions in which little exploration and extraction is undertaken but large profits are booked. These countries are creating important negative spillovers for other countries while still benefiting from tax revenues charged under tonnage regimes and potentially promoting some growth in ancillary services.

5 Concluding Remarks

The present chapter has explored the relationship between the widespread granting of TES and the existence of IFFs. It has shown that TES may play an important role as facilitators and enablers of IFFs. The use of TES has been discussed separately with reference to source countries (where IFFs originate) and recipient countries (where IFFs are received, either as their final destination or in transit to other jurisdictions). Based on the available evidence—which is, it must be said, far from abundant or conclusive—we have focused on three mechanisms in particular: the use of SEZs, the granting of TES in the

extractive industries, and the application of PBs and other provisions that target intangible assets.

These three mechanisms were chosen in order to highlight specific properties of TE regimes that make them vulnerable to IFFs. They have one thing in common: rather than referring to single TE provisions—such as, for instance, an exemption on import duties for capital goods—each covers several TEs at the same time. For example, SEZs typically combine CIT reductions with import VAT and customs duty exemptions, as well as in some cases reductions in withholding taxes and other tax relief. It is important to note, however, that the TEs discussed in this chapter do not exhaust the universe of available measures. Many more such provisions are used by governments. Insofar as they exacerbate tax-rate differentials between different jurisdictions, they too may constitute drivers of IFFs.

In addition, the chapter has discussed how bilateral tax treaties may affect the use of TEs for IFFs, in particular by their adding another layer of complexity to the tax system, making it more difficult for governments to monitor the use and prevent the abuse of individual provisions. Hence, while there is at present no direct evidence that links the use of TEs to the overall size or specific patterns of IFFs, this chapter has identified several means by which TEs may enhance IFFs. Secrecy, the complexity of tax systems, and weakened monitoring by the state appear to be core driving forces in this regard.

Even in the absence of robust evidence, the insights presented here allow us to draw some tentative conclusions. It is clear that transparency, tax certainty, and simplicity are important properties of tax systems and that governments may wish to strengthen them when seeking to protect their tax base. These properties apply to TE regimes as well. Consequently, one line of action would involve reducing the complexity of TE regimes and controlling for unwanted interactions that might trigger IFFs. Further, resource-dependent countries would be well advised to safeguard mining rights when negotiating tax treaties (Readhead and Taquiri, 2021, 20–55). Publishing extractive contracts—for instance under the Extractive Industries Transparency Initiative standard (Murombo, 2022)—could also constitute an important step forward.

Finally, governments need to align their tax systems with the requirements of international tax standards. The GLOBE proposal developed by the OECD (OECD, 2022a) and the introduction of a global minimum tax of 15 per cent in particular are going to have important repercussions for the use of business-related TEs, even considering that this minimum tax applies only to a constrained number of large multinational corporations and only refers to excess profits—so, to profits in excess of a fixed return on tangible assets and payroll

(see González Cabral et al., 2023b for an in-depth discussion). While it is too early to draw any conclusions about the impact of this minimum tax, one of the main outcomes will be the need for countries to revisit the use of CIT-related TES. It can be expected that TES granted on profits of companies will likely be more affected than TES granted on certain business expenditures. Hence, tax holidays and SEZs that lower effective tax rates to 0 per cent should be particularly affected. Since profits-based TES are more clearly linked to IFFs, as shown above, the expected impact of the GLOBE initiative could indeed be positive for the global fight against IFFs.

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PART 3

Policy Responses across Space and Time



The Battle Over Policies to Curb Trade-Related Illicit Financial Flows: Findings from a Q-methodology Study

Fritz Brugger and Joschka J. Proksik

Abstract

Illicit financial flows (IFFs) deprive low-income countries of essential revenues while donors' willingness to fund aid budgets dwindles. IFFs related to foreign direct investment and trade include transfer mispricing, trade mispricing and profit shifting. Policy options to curb IFFs range from short-term fixes to mid-term measures that adjust legal instruments and improve coordination between countries, to more fundamental structural reforms that require a longer time horizon. Which policies are effective and should be pursued is a highly contested point, slowing down the progress of reform. This is unsurprising as reducing IFFs involves a distributional conflict: more for those deprived of revenues now means less for those who currently benefit. We conduct a Q-methodology study among IFF policy experts. We use Q-methodology to reveal participants' policy preferences and tease out lines of contestation and areas of agreement to identify the policy space available in which to advance reform. We find tensions existing amid preferences for short-term fixes and for more comprehensive structural reforms; tensions regarding the question of extending legal liability to those facilitating and assisting in the creation of IFFs; and tensions over whether and to what extent host countries should be empowered to curb IFFs using their legislative sovereignty. Policy measures to increase targeted transparency that is directly actionable to tax administrations in host countries are the most likely to garner approval from all stakeholders.

1 Introduction

Illicit financial flows (IFFs) are found to be a key obstacle to the development of low- and lower-middle-income countries, depriving them of billions of dollars in tax revenues (Brandt, 2023). Yet beyond a shared moral concern about this loss of revenue, views differ about IFF concepts and definitions (Musselli and Bürgi Bonanomi, 2020), and even more about appropriate and effective

measures to curb IFFs. This holds particularly for IFFs related to foreign direct investment and trade, where transfer mispricing, trade mispricing and profit shifting play an important role (Crivelli, De Mooij and Keen, 2015; Wier and Zucman, 2022; Mosquera Valderrama, Lesage and Lips, 2018). Which policy measures are seen as effective and should be deployed is a highly contested point. This is unsurprising as the question involves distributional conflict: more for those deprived of revenues now means less for those who currently benefit.

There are many possible regulatory responses and policy innovations on the table that might curb trade-related IFFs. These range from increasing transparency in trade and financial transactions to strengthening capacity-constrained tax administrations in low-income countries to fundamentally overhauling the existing international taxation system.

While measures proposed to address IFFs are highly diverse, the complexity and interconnectedness of the topic require, in most cases, coordination between jurisdictions and careful consideration of the broader institutional and regulatory context to avoid new loopholes and ensure policy measures are effective. International organisations play an essential role in this coordination. Since each international organisation has its particular mandate and decision-making procedures to represent the interests of its members, the question of where interests are coordinated and where international rules are negotiated matters. For example, in global tax governance the role of the Organisation for Economic Co-operation and Development (OECD)—whose members are the 36 most advanced economies—as the principal forum for tax negotiation has increasingly been challenged by non-member countries, all of them low- and middle-income countries, calling for UN-based negotiations where they have a vote (Brugger and Engebretsen, 2020; Christensen and Hearson, 2019; Hearson, Christensen and Randriamanalina, 2023; Seabrooke and Wigan, 2016; Teo, 2023).

Given the complexity of the topic, the plethora of proposals to curb IFFs, and the numerous actors at different levels involved, the question emerges as to what policy space is available to advance reform. The concept of 'policy space' delineates the limits to, and opportunities for, policy actors' choices or actions. Factors that can constrain or expand a policy space include institutional frameworks such as legal and regulatory structures at national and international levels, pressures from other states or from international organisations or interest groups, the financial resources available and technological advances. Another critical aspect determining the policy space available is the dominant political climate. The combined effects of the agenda of policymakers, the balance of political power, the strength of interest groups and public opinion can influence the acceptance of reform proposals among different stakeholder

groups, and hence the range of policies considered. This is particularly important for highly contested policy issues where the stakes for the various actors are high. Understanding the areas where views converge can reveal the room for manoeuvre that a government, organisation or other decision-making body has when formulating and implementing policy reforms, whether at the domestic or the international level.

Taking the case of commodity trade-related IFFs, we explore the policy space available for reform by eliciting policy experts' preferences for measures to curb IFFs. Study participants include public officials, and representatives from international organisations, the private sector, policy think tanks and academia. Although our focus is on commodity trade and commodity trade mispricing more specifically, several of the policy measures considered are broader in scope, targeting different types of IFFs, whether tax-related, corruption-related, or originating from transnational criminal activity.

We proceed in two steps. First, building on existing research by Musselli and Bürgi Bonanomi (2021) into IFF policy measures, we provide a conceptual framework delineating the range and scope of different policy options to address commodity trade-related IFFs. On this basis, we distil a diverse set of policy options to elicit stakeholder preferences through a Q-methodology study to identify the policy space that intersects stakeholder groups.

We find that views on the most appropriate policies to curb IFFs differ widely. Critical tensions run along preferences for short-term fixes versus more comprehensive structural reforms regarding extending legal liability, and whether host countries should be encouraged to use or expand their legislative sovereignty to introduce (unilateral) measures for curbing IFFs. Policy measures to increase targeted transparency are the most likely to garner approval from all stakeholders.

2 Conceptual Framework

Our conceptual framework builds on the comprehensive compilation and analysis of policy options to address commodity trade-related IFFs of Musselli and Bürgi Bonanomi (2021). The inventory captures the current policy debate related to commodity trade-related IFFs; however, despite striving for completeness, this is an evolving field and new policy options continue to emerge (see Table 6.1). The inventory is organised along a three-by-three matrix (see Figure 6.1). The x-axis considers the temporal dimensions and sorts the policies into short-, medium-, and long-term interventions. The key distinguishing criterion here is the complexity of decision-making and implementation.

Measures that can be implemented in the short term build on existing regulations and do not require legal changes; some can even be adopted by a single or just a few actors. Short-term measures are relatively low-hanging fruit, but their potential to substantially curb IFFs is often limited. Medium-term measures, in contrast, require additional political and organisational effort and depend on the cooperation and coordination of multiple actors across countries; typically, they also involve developing and adopting a new legal basis. Long-term policy measures aim for more profound structural reform, which is only possible with concerted action at the multilateral level.

The y-axis distinguishes between the implementing jurisdictions. The home country jurisdiction is where the multinational enterprise (MNE) is headquartered or incorporated. It is typically where the firm's central operations and management are located and where the parent company is subject to laws, regulations, and economic policies. The home country may provide support and incentives to companies headquartered in its jurisdiction, and in turn benefits from their global success through taxes, employment, and economic growth. The host country, meanwhile, is a foreign jurisdiction where the multinational company operates or conducts business activities and establishes a subsidiary company. In resource extraction and commodity trade, host countries are typically low- and lower-middle-income countries. While the host country has its legal framework regulating resource access, environmental protection, labour laws and fiscal regime, legislative sovereignty is often limited by international agreements that the country has adopted. For example, the investments and operation of foreign-controlled firms are usually subject to bilateral investment treaties (BITs). Most of the roughly 2,200 BITs in force (UNCTAD, 2023) are based on either the OECD or UN Model Tax Convention (OECD, 2017b; UN, 2017), which both require tax administrations of host countries to follow the OECD Transfer Pricing Guidelines (OECD, 2017c; Soong Johnston, 2017). The current transfer pricing guidelines have been identified as conducive for IFFs (Durst, 2010; Faccio and Picciotto, 2017; Picciotto, 2018).

As sovereign jurisdictions, the home and host countries can take unilateral measures if international agreements like the BITs or relevant multilateral conventions do not restrict them from doing so. In this case, bilateral or multilateral negotiations or global cooperation is required to effect changes to the existing regulatory framework. Such negotiations are typically protracted but provide an opportunity for more fundamental reform. That said, the distinction between whether the measures can be taken by the host or the home country is not always clear-cut in practice. For some policies, it needs cooperation between the two to negotiate and implement particular measures.

TABLE 6.1 Inventory of policy measures to curb commodity trade-related IFFS

AA1	Introduce the use of smart containers.
AA2	Introduce systematic scanning of containers.
AA3	Introduce the use of blockchain to manage trade transactions.
AA4	Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries.
AB1	Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms).
AB2	In state-owned enterprises, ringfence the buyer selection process from political interference.
AB3	Make information related to all stages of the buyer selection processes in state-owned enterprises publicly available.
AC1	Offshore wealth centres shall spontaneously inform low-income countries on accounts and amounts held by their residents in a de-identified manner.
AC2	Offshore wealth centres shall publish the number of accounts and amounts from low-income countries in a de-identified manner.
AC3	Trading and financial hubs shall supply information—automatically or on request—to low-income countries on a non-reciprocal basis.
AC4	Sharing tax information received from partner countries between public entities within the receiving state shall be allowed.
AC5	Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative.
AC6	For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices.
AC7	In trade statistics, introduce statistical keys to identify related-party transactions.
AC8	Add the origin of gold received in custom statistics based on refinery information.
AC9	Support efforts to establish geo-forensic methods for the identification of the origin of gold.
AC10	Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only).
BA1	Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales.
BA2	Producer countries shall put limits to deductible taxpayer costs in intra-group transactions.

TABLE 6.1 Inventory of policy measures to curb commodity trade-related IFFS (*cont.*)

BA3	Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins).
BB1	Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion.
BB2	Require legal professionals, accountants and service providers to report suspicious transactions to the anti-money laundering authority.
BB3	Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements.
BB4	Legislate mandatory disclosure of cross-border tax arrangements when they have certain predefined features that might signal aggressive tax avoidance.
BB5	Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities.
BB6	Introduce international beneficial ownership registries that are interoperable with national registries.
BB7	Require the parent company to make the Country-by-country report public.
BB8	Require the parent company to send the Country-by-country report to its subsidiaries for local filing.
BB9	Allow the use of Country-by-country data for tax adjustment purposes.
BB10	Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards.
BB11	Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents.
BB12	Payments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading.
BB13	Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention.
BB14	Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and financiers, listing requirements, and redefinition of directors' fiduciary duties.
BB15	Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries.
BB16	Negotiate development-friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template.

TABLE 6.1 Inventory of policy measures to curb commodity trade-related IFFS (*cont.*)

CA1	Introduce unitary taxation with formulary apportionment as global tax standard.
CB1	Combine transparency approaches into a Global Asset Registry linked with legal entities and taxpayer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items).
CC1	Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework.
CC2	Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment.

SOURCE: THE AUTHORS, BASED ON MUSSELLI AND BÜRGI BONANOMI (2021)

3 Methodology

Q-methodology is a research methodology that combines quantitative and qualitative techniques to systematically study human subjectivity (Brown, 1980; McKeown and Thomas, 2013; Watts and Stenner, 2012; 2005). It is a valuable tool for understanding how small-n-groups (as in our case) perceive a specific issue. Q-studies have found application across various disciplines and have become increasingly popular in policy analysis, offering insights for political decision-making (Alderson et al., 2018; Brown, 2019; Molenveld, 2020; Sardo and Sinnett, 2020; Zabala, 2014).

During Q-studies, participants rank predefined statements that broadly represent the spectrum of viewpoints on the topic of interest, representing the ‘concourse’, in Q-parlance (Watts and Stenner, 2012; 2005). These statements are displayed on cards, and each participant sorts them into a forced normal distribution based on his or her preferences (see Figure 6.2), resulting in one Q-sort per participant. Patterns of each Q-sort are then established. By employing by-person factor analysis, similar ranking patterns in participants’ Q-sorts (i.e. Q-sorts with similar significant loadings) are combined into so-called *factors* (see Figure 6.3), whereby each factor represents a shared viewpoint or perspective of study participants (Alderson et al., 2018; Brown, 1980; Schuijff, De Jong and Dijkstra, 2021; Stephenson, 1993; Watts and Stenner, 2012).

		Implementation timeframe		
		Short term	Medium term	Long term
Implementing jurisdiction	Cross-border/ global	AC1-4	--	CA1-CC2
	Host country	AB1-3	BB1-3	--
	Home country	AA1-10	BA1-16	--

FIGURE 6.1 Conceptual framework for organising policy proposals to address trade-related IFFs

Note: The information in the cells refers to the policy statements derived to build the Q-set as discussed in Section 3 and listed in Table 6.1.

SOURCE: THE AUTHORS, BASED ON MUSSELLI AND BÜRGI BONANOMI (2021)

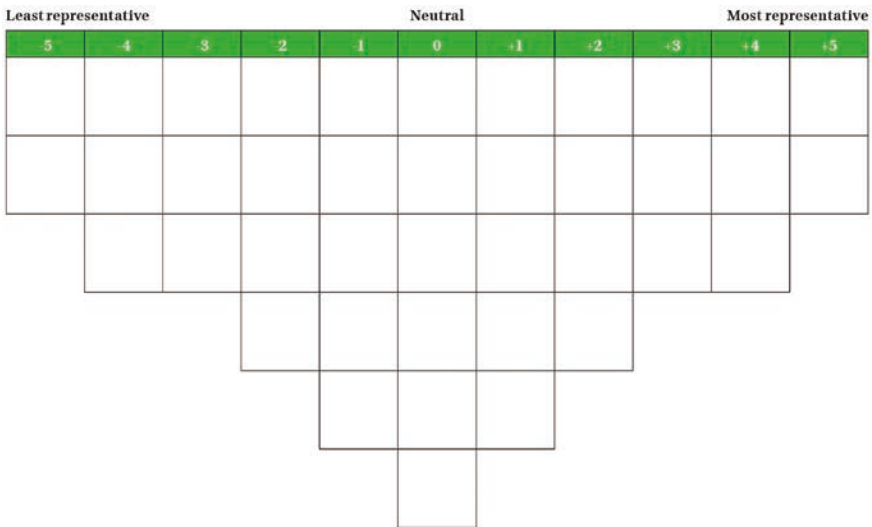


FIGURE 6.2 Q-sorting grid

SOURCE: THE AUTHORS

3.1 Generation and Selection of Statements (Q-set Design and Q-sample)

In this study, the concourse from which the statements are derived pertains to

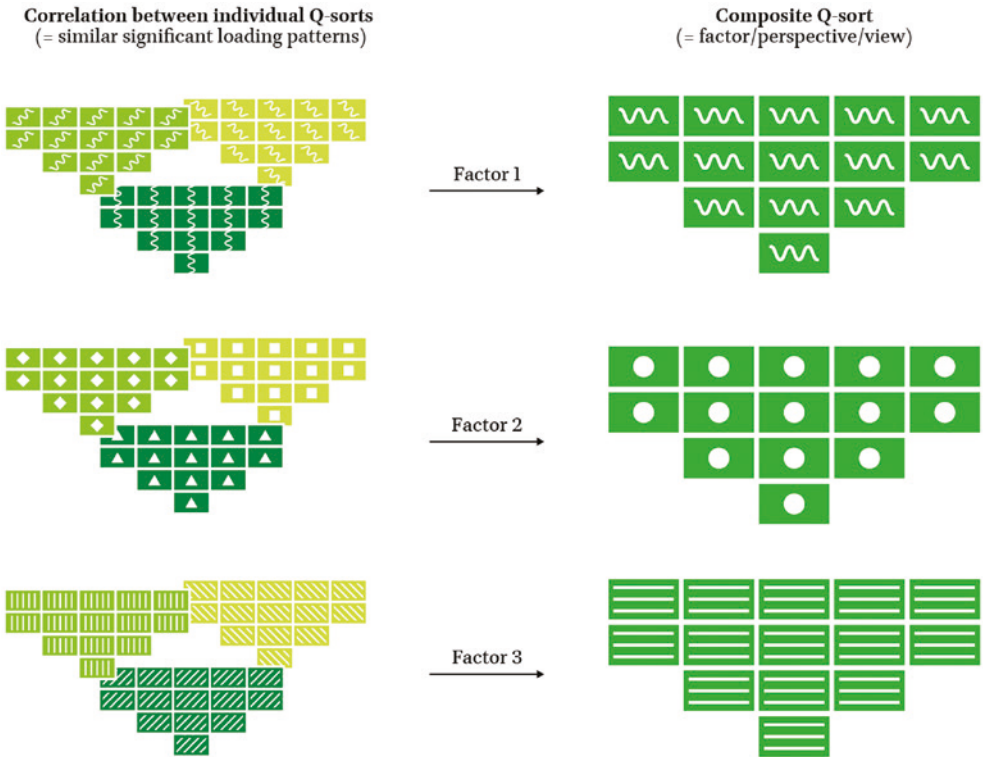


FIGURE 6.3 By-person factor analysis

This by-person factor analysis analyses how different preferences are expressed within each individual, helping to find groups of individuals who have sorted the statements in a similar way, indicating shared perspectives or viewpoints

SOURCE: THE AUTHORS, BASED ON BAKER (2016)

the spectrum of regulatory measures and policy responses to curb commodity trade-related IFFs. Musselli and Bürgi Bonanomi (2021) have presented a comprehensive stocktaking of the regulatory and policy options from the academic literature and the policy discourse, which we use as our starting point for formulating the Q-statements (collectively called the Q-set). To generate the Q-statements, we summarise each policy proposal in a one-sentence statement (see Table 6.1). We reconfirmed with the authors that each single-sentence statement accurately represents the intention of the respective policy proposal. This results in a Q-set of $n=40$ Q-statements. The policy measures (and hence the Q-statements) are organised in the three-by-three matrix (see Figure 6.1) that distinguishes short-, medium-, and long-term responses, home country, host country, and cross-border or global measures. Of the nine

resulting fields, policy options were identified for six: short-term, home country (AA); short-term, host country (AB); short-term, cross-border/global (AC); medium-term, home country (BA); medium-term, host country (BB); and long-term options at the global/multilateral level (CA-CC).

3.2 *Selection of Participants*

Study participants were purposefully selected based on their broad classification as relevant policy stakeholders and their general familiarity with the topic. In our selection of participants we also sought to include those with diverse backgrounds and professional roles to ensure a heterogeneous distribution (Watts and Stenner, 2012; 2005). In total, a sample of 20 participants ($P = 20$) were recruited, resulting in a 2:1 Q-set-participant ratio, which is good practice in Q-studies (Webler, Danielson and Tuler, 2009). Participants comprise representatives of private sector entities active in the commodity sector (five), representatives of think tanks and interest groups covering the broad spectrum of political positions and interests (seven), academics working on IFFs (six), and regulators (two). The low number of government officials is the result of a low response rate. As several bureaucrats who declined to participate argued, this reluctance is due to the sensitivity of the topic. How severe is their absence from the study? Such professionals are tasked with developing policy. It is not they, however, who will ultimately set policy. Rather, they are the agents of politically appointed principals (the minister and the parliament) who have the decision-making power. This does not mean that bureaucrats have no agency or room for manoeuvre. However, in politically contested topics such as IFF, an administration's independence should not be overestimated as it is closely watched by its political constituencies. The fear of being perceived as acting politically explains government officials' reluctance to participate. We therefore argue that the low representation of bureaucrats does not reduce the existing diversity of policy stances in our sample. Elected parliamentarians, in turn, engage in policy work in consultation with their preferred interest group organisations and think tanks since they combine technical expertise and the preferred political ideology. Interest groups and think tanks actively engage with the policy process and advise policymakers. Therefore, to represent the different policy stances, the diversity of interest group organisations and think tanks is as relevant, which also explains why this is the largest group from which we recruited study participants.

3.3 *Data Collection (Q-Sort Administration and Interviews)*

Data were collected in the form of participants' sorted rankings of statements (Q-sorts) as well as their written comments. Before the study, selected

participants were contacted via e-mail and provided with information about the study's background and purpose. Participants were assured of anonymity, and their involvement was based on prior informed consent. The Q-sorts and participants' comments were collected remotely between September and October 2021 using the cloud-based application QMethod Software (Lutfallah and Buchanan, 2019).

For the Q-sort administration, participants were required to rank the 40 policy statements from the most to the least representative given their personal views. In the first step, participants were asked to read the statements carefully and sort the cards into three initial piles: most representative of their views, least representative, and neutral. Then, participants were requested to sort all statements onto the Q-sorting grid, from the most representative (+5) to the least representative (-5) (see Figure 6.2). Participants were free to change their sorted rankings of statements until satisfied with the final distribution.

In the next step, we asked participants to explain their ranking choices, especially the statements ranked most representative (+5) and least representative (-5). These explanations helped with the factor interpretation and allowed us to gain a better understanding of stakeholder viewpoints and preferences. Subsequently, participants were given the opportunity to provide any further comments.

4 Actor Analysis and Results

The analysis included 20 Q-sorts, corresponding to the number of study participants. Eight factors were initially extracted, and three were selected for rotation, employing a varimax rotation method. Factor selection is based on a combination of statistical criteria (e.g. the Kaiser–Guttman criterion on eigenvalue, minimum and cumulative variance) and theoretical considerations (Armatas et al., 2014; Brown, 1980; Molenveld, 2020; Nguyen et al., 2018; Watts and Stenner, 2012; Webler, Danielson and Tuler, 2009; Zabala, Sandbrook and Mukherjee, 2018). In our case, the three factors retained (F₁, F₂, F₃) explain 43 per cent of the study variance (18%, 14%, and 11%) with no significant correlation between factor scores.

Out of 20 Q-sorts, 19 were found to load significantly on one or more of the three factors (factor loading of 0.41 or higher at the $p > 0.01$ level), indicating a strong relation between each participant's Q-sort and the factor (Zabala, Sandbrook and Mukherjee, 2018). One Q-sort was confounded, showing significantly positive loadings on both F₁ and F₃, and was excluded (Watts and Stenner, 2012; Webler, Danielson and Tuler, 2009). As a result, F₁, F₂, and F₃

are defined by six, five and seven variables (i.e. Q-sorts), respectively, whereas F₁ and F₂ are bipolar as both factors include significantly negative loading Q-sorts. Bipolar factors in Q-methodology mean that the Q-sorts associated with this factor take on diverging, tentatively opposite viewpoints. The negative loading has nothing to do with a wrong or negative position; the two represent just the views from the opposite poles (Watts and Stenner, 2012).

For interpretation, the bipolar factors F₁ and F₂ were each split into two separate factors, F_{1a} and F_{1b}, and F_{2a} and F_{2b}, resulting in the construction of four-factor arrays (defined by five, one, three and two variables, respectively), whereby F_{1b} is the Q-sort of a single participant. Detailed statistics are provided in the appendix.

5 Interpretation

We interpret the factor arrays mainly by analysing the extreme statements (± 5 , ± 4). In some situations, we also consider statements that received more moderate ratings (± 3). We first assess the extent to which the policy proposals ranked under each factor are coherent and cluster around one or more policy approaches to curbing IFFs. We then ask where policy preferences espoused by the respective factors are located on the conceptual matrix introduced earlier (see Figure 6.1). Taken together, this information outlines the position of the 'policy community' represented by a given factor. Superimposing the three positions reveals the policy space in which preferences might overlap and where reforms are most likely to gain majority support.

5.1 *Perspective 1: The Compliance View*

We label the perspective that is represented by Factor 1 the *compliance view* (see Figure 6.4) because the policies that this view espouses pivot around extending liability for curbing IFFs to actors that are currently not held legally accountable. This also entails expanding legal consequences in the case of wrongdoing.

The compliance view subjects professional service firms (BB1) and designers, marketers and facilitators of tax evasion schemes (BB3) to judicial prosecution if they assist in facilitating IFFs. It increases the consequences for perpetrators by excluding companies convicted of tax evasion, bribery or money laundering from accessing financial services, particularly project and trade finance, insurance coverage and equity investment (CC2). The focus placed on reining in those facilitating and benefiting from IFFs is combined with measures to reduce opportunities to legalise IFFs, in particular by the preference for an

interlinked system of national and international beneficial ownership registries (BB5, BB6, CB1) and the introduction of unitary taxation (CA1).

Under the compliance view, such reforms should not be sidetracked by technocratic measures such as more effective container management (AA1, AA2), traceability of goods through blockchain technology (AA3), or geo-forensic methods to establish the provenience of high-value commodities such as gold (AC9). These measures attempt to change how trade operations work but are seen as short-term technical fixes and are the least preferable policy options from the compliance perspective.

While the topic of transparency receives less attention than does legal compliance, the position taken under Factor 1 mirrors the same preference: only targeted transparency measures are welcome, while pure statistical transparency is seen as less helpful. In concrete terms, providing more granular commodity-by-commodity merchant data in customs statistics (AC6, AC10), publishing the number of accounts and amounts in offshore wealth centres (AC2) or adding statistical keys to identify related-party transactions (AC7) are seen significantly less favourable than taking measures that give tax authorities in low-income countries access to information that allows for direct and targeted follow-up and investigation. The latter include mandatory publication of country-by-country tax reports and critical inter-company tax arrangements (BB7, BB8, BB4) and unilateral information exchange by financial centres and trading hubs (BB10), but the protection of whistle-blowers (BB13) also belongs to this cluster of measures.

Noteworthy and somewhat inconsistent with the tenets of this perspective is the negative rating of the proposal that capacity-constrained jurisdictions should be allowed to use country-by-country data for tax adjustment purposes (BB9). The scepticism with regard to directly empowering host country tax administrations is, however, not unique. Other policy proposals that would embolden host country tax administrations—including the use of reference prices to determine the tax value of commodity sales (BA1), limits to deductible taxpayer cost in intra-group transactions (BA2), and the introduction of profit allocation rules for subsidiaries in the form of, for example, minimum profit margins or fixed margins (BA3)—are also met with reservations.

In sum, the compliance view favours mid- to long-term reforms over short-term fixes and puts obligations on host countries but is less consequential on proposals that would empower host countries to expand and use their sovereign policy space.

The opposing perspective to the compliance view—represented in Factor 1b—shows the opposite preferences (see Figure 6.5). It displays reliance on all those technological measures that are disregarded by the compliance view

(e.g. AA2, AB2, AC6, AC9) and shows the lowest rankings for setting up beneficial ownership registries and extending legal liability to service providers and other actors, with one notable exception: this view strongly supports the proposal that companies convicted of financial wrongdoing should be excluded from financial services (CC2), which is assumed to work as a powerful legal threat and deterrent.

5.2 *Perspective 2: The Enigma of Empowerment View*

Factor 2 presents a different mix of proposals that it envisages as most effective in reducing IFFs. We call it the *enigma of empowerment view* because it takes an indecisive and contradictory stance on the extent to which host countries should be empowered to curb illicit financial outflows (see Figure 6.6). Three elements stand out: First, the *enigma of empowerment view* shows equally strong support for extending legal liability to enablers and marketers of schemes that facilitate IFFs (BB1–3) as the compliance view, but without the explicit support for beneficial ownership registries. Rather, extending legal liability is complemented by a second set of policy measures that proposes strengthening tax authorities in capacity-constrained jurisdictions, directly empowering local authorities. It requests the parent company of an MNE send the Country-by-country report to its subsidiaries for local filing (BB8), a measure that provides relevant information to tax authorities in host countries. Yet the empowerment element goes a step further, suggesting that the local tax authorities should be allowed to use country-by-country data for tax adjustment purposes (BB9, the proposal that also has the highest composite ranking under Factor 2). These medium-term reform proposals are complemented by a short-term policy measure consistent with the idea of empowering local tax authorities that can be realised within the existing regulatory set-up. It suggests requiring data matching and improving the flow of information between customs authorities, tax authorities and banks within and between countries (AA4). Different documents—including sales and purchase documents, customs declarations, and commercial, payment and transport documents—shall be cross-matched to spot discrepancies that may point to misinvoicing in specific trade transactions.

The policy proposals rejected partly contradict the profile of the empowerment view that started to emerge from the most favoured policy proposals. Foremost, the policy option that producer countries might unilaterally introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins) in the medium term is firmly rejected (BA3). Such a proposal would significantly empower host countries' taxing capacity but would challenge the basic tenets of the current transfer pricing doctrine. Further, even

modest measures to empower low-income tax authorities are firmly rejected, including the idea that trading and financial hubs shall supply information—automatically or on request—to low-income countries on a non-reciprocal basis (AC3) and the proposal that trading and financial hubs shall significantly expand the coaching of low-income countries to request and interpret tax information (AC4). It is important to note that the *enigma of empowerment* view also rejects extending incentives to multinational firms by making taxes paid at source in low-income countries deductible against the tax due in residence countries (BB15).

It is its internal contradictions that led us to label Factor 2 the *enigma of empowerment*. It brings to the fore a tension that is rarely made explicit in discussions about global tax policy and the question of tackling IFFs: To what extent should the capacity, autonomy and agency of host countries, mainly low-income countries, be strengthened with regard to establishing and enforcing rules, and to what extent should home countries, those benefiting from the existing rules, be tasked with curbing IFFs? While the official discourse, as exemplified through the Inclusive Framework at the OECD, emphasises cooperation and joint responsibility (OECD, 2017a), research finds a reluctance to move towards an equal partnership and negotiation at eye level (Brugger and Engebretsen, 2020; Christians and van Apeldoorn, 2018; Hearson, Christensen and Randriamanalina, 2023). The *enigma of empowerment* view nicely illustrates the unease in policy circles with regard to the role some are willing to concede to host countries.

The (partially) opposing factor F2b is presented in Figure 6.7. It provides consistent rejection of the proposals favoured by the *enigma of empowerment* view, particularly rejection of extending liability to service providers (BB1–3) and allowing the use of country-by-country reports for tax adjustment purposes (BB9). The most preferred policy option of the opposing stance to the *enigma of empowerment* is strong support for making taxes paid in low-income countries deductible in home countries (BB15). The other provisions show a less consistent picture, combining targeted transparency measures like international beneficial ownership registries (BB6) with improving the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries (AC4) with the obligation for offshore centres to assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents (BB11). Empowerment-focused proposals, such as producer countries limiting deductible taxpayer costs in intra-group transactions (AC4), receive second-order support only.

-5	-4	-3	-2	-1	0
AA1 Introduce the use of smart containers	AA2 Introduce systematic scanning of containers	AC2 Offshore wealth centres shall publish number of accounts and amounts from low in deidentities manner	BB9 Allow the use of Country-by-country data for tax adjustment purposes	AB3 Make information related to all stages of the buyer selection processes in state-owned enterprises publicly available	BB14 Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and...
AA3 Introduce the use of blockchain to manage trade transactions	AB2 In state-owned enterprises, ringfence the buyer selection process from political interference	BB2 Require legal professionals, accountants and service providers to report suspicious transactions to the AML authority	AC10 Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only)	BB12 ayments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading	BA3 Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins)
	AC9 Support efforts to establish geoforensic methods for the identification of the origin of gold	BB15 Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries	AC6 For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices	ACI Offshore wealth centres shall spontaneously inform low-income countries on accounts and amounts held by their residents in a de-identified manner	BB11 Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents
			CCI Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework	BB16 Negotiate development friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template	AC7 In trade statistics, introduce statistical keys to identify related-party transactions
				ACS Add the origin of gold received in custom statistics based on refinery information	BA2 Producer countries shall put limits to deductible taxpayer cost in intra-group transactions
					AC5 Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative

FIGURE 6.4 Composite Q-sort for Factor 1a
SOURCE: THE AUTHORS

5.3 Perspective 3: Targeted Disclosure

The most supported policy proposals under the third perspective represented by Factor 3 pivot around the idea of *targeted disclosure* (Figure 6.8). This involves proposals that enhance the exchange of information and data among customs authorities, tax agencies and financial institutions within and across nations (AA4), extend payment-to-government disclosure beyond extractive

+1	+2	+3	+4	+5
BB4 Legislate mandatory disclosure of cross-border tax arrangements when they have certain pre-defined features which might signal aggressive tax avoidance	BB7 Require the parent company to make the Country-by-country report public	CA1 Introduce unitary taxation with formulary apportionment as global tax standard	BB6 Introduce international beneficial ownership registries which are interoperable with national registries	BB5 Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities
AC4 Sharing tax information received from partner countries between public entities within the receiving state shall be allowed	BB13 Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention	AC3 Trading and financial hubs shall supply information - automatically or on request - to low-income countries on a non-reciprocal basis	CC2 Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment	BB1 Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion
BA1 Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales	BBS Require the parent company to send the Country-by-country report to its subsidiaries for local filing	CB1 Combine transparency approaches into a Global Asset Registry linked with legal entities and tax payer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items)	BB3 Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements	
AA4 Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries	BB10 Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards			
ABI Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms)				

Legend

- Distinguishing statement at P< 0.05
- Distinguishing statement at P< 0.01
- Consensus Statements

industries to explicitly include disaggregated information on trading (BB12), and introduce beneficial ownership registries at the international and national levels (BB5, BB6).

These measures are complemented by the mandatory requirement for legal professionals, accountants and service providers to report suspicious transactions to the anti-money laundering (AML) authority (BB2) and the legal protection of whistle-blowers in offshore centres. Yet support for targeted disclosure is not unrestricted, as other proposals that would advance targeted disclosure

-5	-4	-3	-2	-1	0
AC1 Offshore wealth centres shall spontaneously in form low-income countries on accounts and amounts held by their residents in a de-identified manner	AC3 Trading and financial hubs shall supply information - automatically or on request-to low-income countries on a non-reciprocal basis	BA3 Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins)	AA4 Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries	AC2 Offshore wealth centres shall publish number of accounts and amounts from low-income countries in a de-identified manner	AB1 Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms)
CBI Combine transparency approaches into a Global Asset Registry linked with legal entities and tax payer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items)	BB6 Introduce international beneficial ownership registries which are interoperable with national registries	BB2 Require legal professionals, accountants and service providers to report suspicious transactions to the AML authority	BA1 Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales	AA3 Introduce the use of blockchain to manage trade transactions	AC8 Add the origin of gold received in custom statistics based on refinery information
	BB9 Allow the use of Country-by-country data for tax adjustment purposes	BB3 Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements	BB1 Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion	AC4 Sharing tax information received from partner countries between public entities within the receiving state shall be allowed	AC10 Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only)
			CCI Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework	AC7 In trade statistics, introduce statistical keys to identify related-party transactions	BB7 Require the parent company to make the Country-by-country report public
				CA1 Introduce unitary taxation with formulary apportionment as global tax standard	BB8 Require the parent company to send the Country-by-country report to its subsidiaries for local filing
					BB11 Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents

FIGURE 6.5 Composite Q-sort for Factor 1b (opposing view to Factor 1a)
SOURCE: THE AUTHORS

are among those rejected, including the option that financial centres and trading hubs shall legislate unilateral information exchange instead of existing reciprocal standards (BB10).

The least supported policy proposals include, on the one hand (and similar to the *compliance view*), short-term measures targeting the day-to-day operations of trade, such as improved container management (AA1, AA2), the use of blockchain for traceability, and publishing more granular merchant trade data

+1	+2	+3	+4	+5
AA1 Introduce the use of smart containers	BA2 Producer countries shall put limits to deductible taxpayer cost in intra-group transactions	AB3 Make information related to all stages of the buyer selection processes in state-owned enterprises publicly	AB2 In state-owned enterprises, ringfence the buyer selection process from political interference	AA2 Introduce systematic scanning of containers
AC5 Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative	BB4 Legislate mandatory disclosure of cross-border tax arrangements when they have certain pre-defined features which might signal aggressive tax avoidance	BB12 Payments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading	AC6 For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices	AC9 Support efforts to establish geoforensic methods for the identification of the origin of gold
BB5 Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities	BB10 Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards	BB13 Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention	CC2 Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment	
BB15 Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries	BB16 Negotiate development friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template			
BB14 Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and...				

Legend

- Distinguishing statement at P< 0.05
- Distinguishing statement at P< 0.01
- Consensus Statements

on a commodity-by-commodity basis instead of publishing net receipts only (AC10). On the other hand, the targeted disclosure perspective firmly rejects sanctioning companies by excluding those convicted of tax evasion, bribery or money laundering from finance, insurance coverage and equity investment (CC2). It also rejects policies that strengthen host countries' means of limiting outflows of IFFs, including, for example, the policy proposal that producer countries shall introduce profit allocation rules for subsidiaries, such as

-5	-4	-3	-2	-1	0
BB15 Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries	AC2 Offshore wealth centres shall publish number of accounts and amounts from low-income countries in a de-identified manner	BA 2 Producer countries shall put limits to deductible taxpayer cost in intra-group transactions	AC6 For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices	CBI Combine transparency approaches into a Global Asset Registry linked with legal entities and tax payer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items)	AB3 Make information related to all stages of the buyer selection processes in state-owned enterprises publicly available
AC5 Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative	BA3 Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins)	BB6 Introduce international beneficial ownership registries which are interoperable with national registries	CA1 Introduce unitary taxation with formulary apportionment as global tax standard	BA1 Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales	AC9 Support efforts to establish geoforensic methods for the identification of the origin of gold
	AC3 Trading and financial hubs shall supply information - automatically or on request - to low-income countries on a non-reciprocal basis	CCI Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework	BB12 Payments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading	BB11 Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents	AB2 In state-owned enterprises, ringfence the buyer selection process from political interference
			AC1 Offshore wealth centres shall spontaneously inform low-income countries on accounts and amounts held by their residents in a de-identified manner	BB4 Legislate mandatory disclosure of cross-border tax arrangements when they have certain predefined features which might signal aggressive tax avoidance	BB5 Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities
				BB10 Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards	BB7 Require the parent company to make the Country-by-country report public
					AA3 Introduce the use of blockchain to manage trade transactions

FIGURE 6.6 Composite Q-sort for Factor 2a
SOURCE: THE AUTHORS

minimum profit margins or fixed margins (BA3), and the option that producer countries shall legislate the use of reference prices to determine the tax value of commodity sales (BA1).

In sum, the *targeted disclosure view* is more reticent than the first two perspectives to support policy options that involve more profound shifts, such as extending legal liability or empowering host countries. Rather, the *targeted*

+1	+2	+3	+4	+5
ABI Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms)	ACS Add the origin of gold received in custom statistics based on refinery information	BB3 Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements	BB9 Allow the use of Country-by-country data for tax adjustment purposes	BB1 Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion
AA1 Introduce the use of smart containers	AC7 In trade statistics, introduce statistical keys to identify related-party transactions	CC2 Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment	BB8 Require the parent company to send the Country-by-country report to its subsidiaries for local filing	AA4 Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries
BB16 Negotiate development friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template	AA2 Introduce systematic scanning of containers	BB14 Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and...	BB2 Require legal professionals, accountants and service providers to report suspicious transactions to the AML authority	
AC10 Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only)	BB13 Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention			
AC4 Sharing tax information received from partner countries between public entities within the receiving state shall be allowed				

Legend

- Distinguishing statement at P< 0.05
- Distinguishing statement at P< 0.01
- Consensus Statements

disclosure view assumes that the most effective way of curbing IFFs is a combination of short- and medium-term reforms that gradually strengthen the existing system of safeguards and expand access to relevant information. Focusing on targeted disclosure and supporting advanced transparency measures that are contested, this view is more ambitious than calling for statistical transparency only, which finds much broader acceptance.

-5	-4	-3	-2	-1	0
BB9 Allow the use of Country-by-country data for tax adjustment purposes	CC1 Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework	CC2 Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment	BB2 Require legal professionals, accountants and service providers to report suspicious transactions to the AML authority	BBS Require the parent company to send the Country-by-country report to its subsidiaries for local filing	BB14 Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and...
BB1 Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion	AA1 Introduce the use of smart containers	AC9 Support efforts to establish geoforensic methods for the identification of the origin of gold	BB10 Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards	AA2 Introduce systematic scanning of containers	CA1 Introduce unitary taxation with formulary apportionment as global tax standard
	BB3 Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements	AC6 For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices	BA1 Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales	ABI Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms)	BB4 Legislate mandatory disclosure of cross-border tax arrangements when they have certain predefined features which might signal aggressive tax avoidance
			AC7 In trade statistics, introduce statistical keys to identify related-party transactions	AC8 Add the origin of gold received in custom statistics based on refinery information	AC10 Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only)
				BB13 Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention	BB12 Payments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading
					AA4 Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries

FIGURE 6.7 Composite Q-sort for Factor 2b (opposing view on Factor 2a)

SOURCE: THE AUTHORS

6 Discussion

The analysis of subjective policy preferences shows a broad range of views on how best to curb trade-related IFFs. Comparing the *compliance*, the *enigma of empowerment*, and the *targeted transparency* views, at least three overarching tensions can be identified that ripple through the policy discourse on IFFs. The

+1	+2	+3	+4	+5
AA3 Introduce the use of blockchain to manage trade transactions	BA3 Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins)	BB7 Require the parent company to make the Country-by-country report public	BB15 Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries	AB3 Make information related to all stages of the buyer selection processes in state-owned enterprises publicly available
AC5 Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative	BB5 Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities	BA2 Producer countries shall put limits to deductible taxpayer cost in intra-group transactions	AC4 Sharing tax information received from partner countries between public entities within the receiving state shall be allowed	BB6 Introduce international beneficial ownership registries which are interoperable with national registries
ACI Offshore wealth centres shall spontaneously inform low-income countries on accounts and amounts held by their residents in a de-identified manner	AB2 In state-owned enterprises, ringfence the buyer selection process from political interference	AC3 Trading and financial hubs shall supply information - automatically or on request - to low-income countries on a non-reciprocal basis	BBII Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents	
BB6 Negotiate development friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template	CBI Combine transparency approaches into a Global Asset Registry linked with legal entities and tax payer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items)			
AC2 Offshore wealth centres shall publish number of accounts and amounts from low-income countries in a de-identified manner				

Legend

- Distinguishing statement at P< 0.05
- Distinguishing statement at P< 0.01
- Consensus Statements

first tension arises between support for short-term measures versus medium- or longer-term measures. It seems that these are not seen as consecutive steps nor as a virtuous cycle. Rather, they represent different levels of ambition, and some stakeholders fear that focusing too much on short-term fixes could undermine the willingness to engage in more substantial reform. For example, the explicit rejection of most short-term measures in the *compliance view* (and

vice versa in the polarised complement) also signals a certain level of ambition, and that focusing on technical fixes in the short term might prevent more ambitious reforms (see Figure 6.8). While this tension between short-term and long-term reforms is clearly visible in all perspectives, the majority of highly ranked policy options focus on medium-term reforms. There seems to be an agreement that short-term fixes will not be enough to address the problem, and that more needs to be done, but within limits: profound long-term reforms find even less support.

The second tension is over the role that legal obligations should play for those involved in facilitating IFFS and what the legal consequences should be for companies convicted of financial misconduct—so, tax evasion, bribery, or money laundering. The softest form of extending legal responsibility—that is, requiring legal professionals, accountants and service providers to report suspicious transactions to the AML authority—is the only proposal that seems acceptable more broadly, but still not unanimously.

The third tension is about whether, and if so, how much, autonomy in rule-making should be conceded to host countries, which are often capacity-constrained low-income countries. While policy proposals in this regard appear prominently in some views, they do not receive cross-cutting support. Rather, a robust majority prefers home countries to drive reforms (see Figure 6.8 and 6.9). Whether this is because of home countries having a moral responsibility to rein in their MNEs or out of a desire to keep control over the reform process (and outcome), or a combination thereof, is beyond the scope of this study. The tension over the role and involvement of host countries in defining tax policies has grown recently, with some host countries increasingly resisting following the OECD-brokered consensus. In November 2023, the UN General Assembly adopted a resolution requiring the United Nations to start an inter-governmental process on international tax cooperation (UN, 2023). The resolution is intended to pave the way for a UN convention on taxation and a new global tax body that challenges the role of the OECD, which has dominated international tax policy for the last six decades. This development illustrates that the actors seeking to empower host countries are gaining momentum at the global level.

The different stances in the three areas of tension are firm, and there is little convergence recognisable. The policy proposals that are potentially agreeable across positions are those that can be summarised under the label of *targeted transparency*. The *targeted transparency view* is indicative of this. The perspective has no polar opposite view, and the targeted transparency policy measures also find significant support in the other perspectives. We call this set of transparency policies *targeted transparency* because these measures release

information that is directly relevant and actionable to tax authorities in host countries. Targeted transparency measures include policies such as improving the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries, but also unilateral information exchange, whereby home countries and financial centres adopt legal provisions that allow information to be provided to host countries without requiring a bilateral exchange treaty.

Research into the promotion of social accountability shows that greater access to information alone is not enough to trigger change (Fung, Graham and Weil, 2007; Kosack and Fung, 2014; McGee and Gaventa, 2010). The assumption that information about misdeeds, such as corrupt practices or embezzlement, would create a public outcry and put pressure on those in charge to improve the situation has proven unreliable. In the extractive sector, this has been observed for data released to the public through the Extractive Industries Transparency Initiative (EITI) (Lujala, Brunnschweiler and Edjekumhene, 2020; Öge, 2016; Rathinam et al., 2019; Sovacool, 2020). Transparency measures that are targeted and actionable prove to be more effective (Fung, Graham and Weil, 2007; Kosack and Fung, 2014; McGee and Gaventa, 2010). In that perspective, the results from the Q-study are interesting as participants support targeted transparency measures that are directly actionable by tax administrations and do not deem additional generic information, such as more detailed statistics, useful; nor do they see this as the start of a virtuous cycle. While many targeted transparency proposals find broad support across perspectives, this also has its limits. For example, the unilateral information exchange proposal, which goes further than most other measures, does not find broad support.

Our study has several limitations. First, Q-studies provide a general overview of relevant standpoints on a subject, revealing shared and diverging perspectives among the stakeholder representatives included. By design, Q-methodology does not aim to produce generalisable findings for an entire (stakeholder) population as in a representative survey. Hence, while being highly relevant for the overall discourse on policy options for curbing IFFs, the identified perspectives and areas of consensus (or dissent) do not necessarily extend to all stakeholder representatives at all levels. Second, caveats to factor interpretation apply. Since not all Q-statements receive high Q-scores, the identified perspectives do not cover all policy proposals included in the Q-sample. Low Q-scores do not necessarily indicate that stakeholders do not attach importance to an issue, as low-salience rankings by individual sorters may primarily indicate a stronger preference for other policies. Another potential caveat concerns the level of expertise of study participants. Given the highly diverse set of policy options, to some extent participants' ranking

-5	-4	-3	-2	-1	0
CC2 Exclude companies convicted of tax evasion, bribery, or money laundering from finance, insurance coverage, and equity investment	AC10 Publish granular merchant trade data on a commodity-by-commodity basis (instead of net receipts only)	AA3 Introduce the use of blockchain to manage trade transactions	CA1 Introduce unitary taxation with formulary apportionment as global tax standard	AC7 In trade statistics, introduce statistical keys to identify related-party transactions	AC3 Trading and financial hubs shall supply information - automatically or on request - to low-income countries on a non-reciprocal basis
BA3 Producer countries shall introduce profit allocation rules for subsidiaries (e.g. minimum profit margins or fixed margins)	AA2 Introduce systematic scanning of containers	BA1 Producer countries shall legislate the use of reference prices to determine the tax value of commodity sales	BB8 Require the parent company to send the Country-by-country report to its subsidiaries for local filing	AC1 Offshore wealth centres shall spontaneously inform low-income countries on accounts and amounts held by their residents in a de-identified manner	AC9 Support efforts to establish geoforensic methods for the identification of the origin of gold
	AA1 Introduce the use of smart containers	BB10 Financial centres and trading hubs shall legislate unilateral information exchange in lieu of existing reciprocal standards	CBI Combine transparency approaches into a Global Asset Registry linked with legal entities and tax payer IDs covering securities and other financial assets (trusts, funds, real estate, luxury items)	BB6 Negotiate development friendly Double Taxation Agreements with low-income countries based on the UN Double Tax Treaty template	AB1 Build capacity and funding for independent assaying capacity in producer countries (laboratories, inspection firms)
			AC2 Offshore wealth centres shall publish number of accounts and amounts from low-income countries in a de-identified manner	AC8 Add the origin of gold received in custom statistics based on refinery information	BB9 Allow the use of Country-by-country data for tax adjustment purposes
				BA2 Producer countries shall put limits to deductible taxpayer cost in intra-group transactions	AC6 For gold, establish granular statistical categories under the Harmonized System for different gold purity levels to better select reference prices
					BB15 Make taxes paid at source in low-income countries tax deductible against the tax due in residence countries

FIGURE 6.8 Composite Q-sort for Factor 3
SOURCE: THE AUTHORS

choices also reflect their degree of professional understanding of the presumed pros and cons of specific policy instruments. Low or neutral rankings may indicate a limited understanding of a given policy instrument rather than rejection or indifference, as partially indicated by qualitative comments. Given the complexity of the topic, this is, however, reflective of a general characteristic of the wider policy debate on IFFs. In real-life policy debates, policymakers

+1	+2	+3	+4	+5
BB1 Make professional service firms criminally liable when they fail to prevent their employees or agents from facilitating criminal tax evasion	CC1 Make Environmental, Social and Governance (ESG) disclosure mandatory within a multilaterally agreed framework	BB5 Introduce national beneficial ownership registries and verification mechanisms covering all types of legal entities	AB2 In state-owned enterprises, ringfence the buyer selection process from political interference	BB2 Require legal professionals, accountants and service providers to report suspicious transactions to the AML authority
BB14 Home countries shall influence the conduct of their companies abroad through legal means, including through mandatory supply chain due diligence, requirements on institutional investors and...	BB11 Offshore centres shall assist other countries in recovering undeclared wealth through withholding taxes on interest and dividend payments to non-residents	BB4 Legislate mandatory disclosure of cross-border tax arrangements when they have certain pre-defined features which might signal aggressive tax avoidance	AA4 Improve the flow of information and data matching between customs authorities, tax authorities and banks, within and between countries	BB12 Payments-to-governments disclosure requirements shall be extended beyond extraction to include disaggregated information on trading
AC4 Sharing tax information received from partner countries between public entities within the receiving state shall be allowed	AB3 Make information related to all stages of the buyer selection processes in state-owned enterprises publicly available	BB13 Offshore centres shall introduce effective protection frameworks for whistle-blowers compliant with the OECD Anti-Bribery Convention	BB6 Introduce international beneficial ownership registries which are interoperable with national registries	
BB7 Require the parent company to make the Country-by-country report public	AC5 Trading and financial hubs shall coach low-income countries to request and interpret tax information beyond the Tax Inspectors without Borders initiative			
BB3 Legislate penalties for the designers, marketers or facilitators of abusive tax arrangements				

Legend

- Distinguishing statement at P< 0.05
- Distinguishing statement at P< 0.01
- Consensus Statements

have imperfect information on some or all options, which puts this limitation of our study into perspective.

Further, when drawing on the study findings, it must be kept in mind that all participants (i.e. their Q-sorts) receive the same weight in factor construction and interpretation. However, not all study participants (and stakeholders) necessarily carry the same weight in policy processes. Finally, as discussed earlier, our selection of study participants attempted to include the most diverse range of positions we could identify in the policy debate. However, all

		Implementation time frame		
		Short term	Medium term	Long term
Implementing jurisdiction	Cross-border / global	AA1-4	--	CA1-CC2
		Compliance 0 (0) / 1 (1)		Compliance 1 (3) / 1 (1)
		Empowerment 1 (1) / 0 (0)		Empowerment 0 (1) / 0 (0)
		Transparency 1 (1)		Transparency 0 (0)
	Host country	AB1-3	BA1-3	--
		Compliance 0 (0) / 1 (2)	Compliance 0 (0) / 0 (0)	
		Empowerment 0 (0) / 1 (1)	Empowerment 0 (0) / 0 (1)	
		Transparency 1 (1)	Transparency 0 (0)	
	Home country	AC1-10	BB1-16	--
Compliance 0 (1) / 2 (2)		Compliance 4 (4) / 0 (2)		
Empowerment 0 (0) / 1 (2)		Empowerment 4 (6) / 3 (4)		
	Transparency 0 (0)	Transparency 3 (6)		

FIGURE 6.9 Policy options with significant support for each perspective: the five (eight) highest-ranked statements
 Note: The second pair of figures in the compliance and empowerment views refers to the bipolar complement.
 SOURCE: THE AUTHORS

participants are from home countries in the global north, and there is no direct participation of experts from host countries. This limitation is only partially compensated by including experts from organisations with the explicit mission to promote/strengthen the role of low-income countries and represent their interests in policymaking in the global North. This limitation also pertains to the fact that in commodity trade, there are transit countries through which commodities pass. Currently, they are not treated separately.

7 Conclusion

The application of Q-methodology to public policy is still in its infancy. Our study demonstrates the usefulness of Q-methodology for understanding policy preferences and informing policy processes. At the research level, our study advances the analysis of complex policy processes via a standardised semi-quantitative methodology suited for expert and small-n groups. Further

research is needed to expand the study beyond participants from home countries to include stakeholders from host countries, increase the representation of policymakers and government officials, and consider including transit countries as a separate category. Future research could also dig deeper into the positions within stakeholder groups. Other relevant stakeholder groups could include the trade policy community, the financial services community, and the tax community, among others. Finally, future research could also take an interdisciplinary approach and explore the cross-fertilisation of Q-methodology with research into the agency of different stakeholders.

The results of this research reveal that the distributive struggle that lies beneath debates over policy measures is not only about the distribution of financial gains but as much about the distribution of agency and decision-making power: who should be reined in and who should be empowered to lead anti-IFF policy measures; the outcome might well set a precedence for other policy areas. Bringing these more fundamental questions to the surface and into the policy discourse is important if we are not to lose sight of the bigger picture and the question of what the architecture of cooperation in tax matters and the combatting of IFFs shall look like.

The IFF and tax policy debates are unlikely to become less contentious, even less so with the upcoming negotiations on a UN tax convention. A tax policy observatory conducting Q-studies at regular intervals could be a cost-effective means to provide near real-time information on ongoing policy processes that are highly dynamic. In light of the growing pressure to curb IFFs, the contestation over policy solutions combined with increasing debate over the representation of host countries and the appropriate forum for negotiation, such an observatory might be a useful academic contribution to inform policy processes.

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Appendix

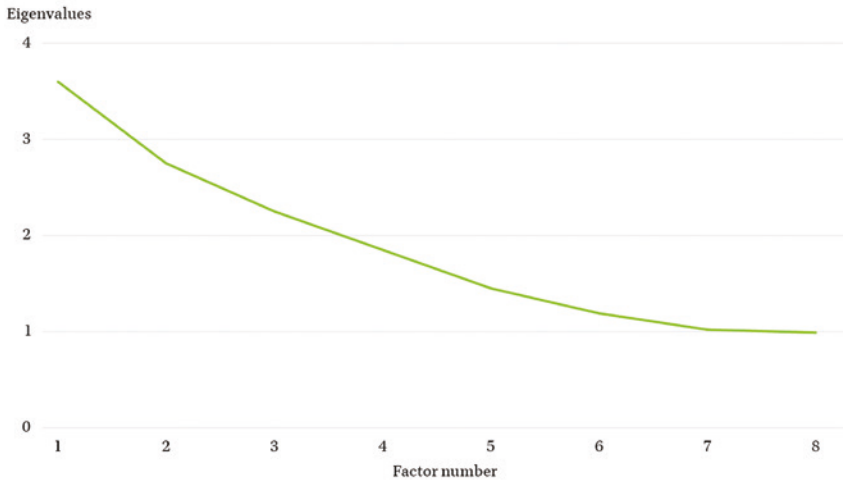


FIGURE 6.A-1 Factors F₁, F₂ and F₃ together explain 43% of the study variance (18%, 14% and 11%)

SOURCE: THE AUTHORS

FIGURE 6.A-2 Distribution of participants on factors, with factor loadings

Num	Participant	FG	Factor 1a	F	Factor 1 b	F	Factor 2a	F	Factor 2b	F	Factor 3	F
4	VAT4041	F1-1	0.7658	-	-0.7658	-	-0.0687	-	0.0687	-	0.412	-
2	MIA8722	F1-2	0.7326	x	0.7326	-	-0.0953	-	0.0953	-	0.1299	-
11	MIA1460	F1-3	0.6047	x	-0.6047	-	0.0013	-	-0.0013	-	0.1746	-
17	HIN8998	F1-4	0.5919	x	-0.5919	-	0.2244	-	-0.2244	-	-0.0187	-
1	HIN7439	F1-5	0.5057	x	-0.5057	-	0.3342	-	-0.3342	-	0.0505	-
18	VAT4366	F1-6	-0.5043	-	0.5043	x	0.0824	-	-0.0824	-	0.0727	-
7	HIN5283	F1-7	0.4767	x	-0.4767	-	-0.2252	-	0.2252	-	-0.236	-
8	MIA7796	F2-1	0.2081	-	-0.2081	-	0.7805	x	-0.7805	-	-0.173	-
15	MIA7895	F2-2	-0.0223	-	0.0223	-	0.69	x	-0.69	-	0.008	-
6	MIA7416	F2-3	0.0661	-	-0.0661	-	-0.597	-	0.597	x	0.3986	-
19	STR5240	F2-4	-0.0749	-	0.0749	-	0.5915	x	-0.5915	-	0.304	-
3	MIA7932	F2-5	0.0714	-	-0.0714	-	-0.5352	-	0.5352	x	-0.1298	-
16	HIN6225	F2-6	0.0011	-	-0.0011	-	0.2892	-	-0.2892	-	0.2512	-
5	HIN4813	F3-1	0.3512	-	-0.3512	-	-0.1368	-	0.1368	-	0.6779	x
20	VAT3667	F3-2	-0.1009	-	0.1009	-	0.33	-	-0.33	-	0.6499	x
13	STR8036	F3-3	-0.2634	-	0.2634	-	0.0781	-	-0.0781	-	0.5605	x
14	VAT4587	F3-4	0.304	-	-0.304	-	-0.0966	-	0.0966	-	0.5242	x
9	VAT9313	F3-5	-0.4377	-	0.4377	-	0.1466	-	-0.1466	-	0.481	x
10	INT2596	F3-6	0.1098	-	-0.1098	-	-0.0012	-	0.0012	-	0.4586	x
12	HIN3525	F3-7	0.3895	-	-0.3895	-	0.0742	-	-0.0742	-	0.4123	x

SOURCE: THE AUTHORS

FIGURE 6.A-3 Descriptive statistics on factors and factor relations

	Factor 1a	Factor 1b	Factor 2a	Factor 2b	Factor 3
Factor score correlations					
Factor 1a	1	-0.2892	0.0753	0.0642	0.1461
Factor 1b	-0.2892	1	0.0674	-0.017	-0.0184
Factor 2a	0.0753	0.0674	1	-0.4848	0.0875
Factor 2b	0.0642	-0.017	-0.4848	1	0.1053
Factor 3	0.1461	-0.0184	0.0875	0.1053	1
Factor characteristics					
No. of defining variables	5	1	3	2	7
Avg. rel. coef.	0.8	0.8	0.8	0.8	0.8
Composite reliability	0.952	0.8	0.923	0.889	0.966
S.E. of factor	0.219	0.447	0.277	0.333	0.184
Z-scores					
Standard errors for differences in factor Z-scores					
Factor 1a	0.31	0.498	0.353	0.399	0.286
Factor 1b	0.498	0.632	0.526	0.557	0.483
Factor 2a	0.353	0.526	0.392	0.433	0.333
Factor 2b	0.399	0.557	0.433	0.471	0.38
Factor 3	0.286	0.483	0.333	0.38	0.26

SOURCE: THE AUTHORS

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Prescriptive Pricing and Stabilisation Clauses in Investment Agreements

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Abstract

'Prescriptive' pricing methods, which employ reference prices and fixed margins for tax purposes, have gained prominence as a pragmatic approach to combatting commodity trade mispricing and tax evasion, especially for countries with limited tax administration capabilities. While these methods hold promise for facilitating enforcement, reducing administrative burdens, and curtailing abusive tax avoidance practices, concerns have arisen about their potential deviation from established international rules and principles. The perceived risk of legal liabilities and investor claims, including 'unfair treatment' under investment treaties, acts as a significant uncertainty factor in the adoption of such methods. Thus, the present chapter addresses the legal aspects of 'prescriptive' pricing methods within the parameters of international investment law, offering a multifaceted perspective on challenges involving the scope of defence arguments that states can mobilise under international investment law to justify such methods and exploring the right and duty of states to regulate corporate conduct and economic activities under human rights law, as well as the practical limitations to this approach in present lawmaking practices.

1 Introduction

'Prescriptive' valuation methods are simplified and targeted means to counter commodity trade mispricing and reclaim diverted profits. To varying extents, they involve the regulatory use of reference prices¹ and fixed margins for tax purposes for the sake of administrative simplicity (Musselli and Bürgi Bonanomi, 2021, 14–17; 2022, 452–54). An instance of this is the requirement to use reference prices when determining the selling price of minerals, or specific

1 Reference prices are price benchmarks compiled and published for reference purposes by commodity exchanges, other recognized market data providers, and government agencies. See below, Section 6.

limitations on the types of expenses and costs that can be deducted for calculating a mine's net income (see Section 2 for further details). These methods are known as 'prescriptive' because they are based on laws and regulations that set the applicable price ranges, margins, pricing formulas and profit allocation methods (Musselli and Bürgi Bonanomi, 2021, 14). In tax literature, they are often called 'administrative approaches' or 'alternative policy options' for pricing and tax valuation (Readhead and Viola, 2023).

Prescriptive methods go beyond administrative simplification. They can be characterised as anti-abuse rules primarily driven by tax avoidance concerns (Readhead et al., 2023; Readhead and Viola, 2023; Taquiri, Lassourd and Viola, 2023). For example, the so-called 'sixth method' approach (see Section 2) was developed by resource-rich countries in Latin America to address abusive tax avoidance schemes in the commodities sector (Readhead et al., 2023). As discussed in Section 4, the tax avoidance aspect is important since it is the government's response to avoidance or misconduct that forms the basis of several defences under investment law. If well designed, prescriptive methods reduce opportunities for abusive tax avoidance practices that exploit ambiguities in the interpretation of the 'arm's-length' principle (for a discussion, see Musselli and Bürgi Bonanomi, 2020),² while providing predictability and certainty for economic actors to plan their transactions (Durst, 2016; Faccio and Picciotto, 2017; Musselli and Bürgi Bonanomi, 2022; Picciotto, 2018; Readhead, 2017; 2018). Prescriptive methods, especially in their most rudimentary forms, offer workable ways for countries with understaffed tax administrations to counter the undervaluation of their commodity exports and the erosion of their tax base.³ Compared with transactional arm's-length rules,⁴ they entail

2 The principle states that related parties should transfer goods and services to each other at the prices that unrelated parties would set (so-called arm's-length prices). As specified in the Organisation for Economic Co-operation and Development (OECD) Transfer Pricing Guidelines (TPGs), this involves an individualized, fact-intensive analysis of the circumstances of the specific transaction (OECD, 2017).

3 Mispricing in trade transactions occurs when goods or services are 'abnormally priced' with reference to prevailing 'market prices', and when these deviations are not justified in commercial terms (for a discussion of the notion and related concepts, see Musselli and Bürgi Bonanomi, 2020 and 2022). On 'base erosion' in the extractive sectors, see the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), <https://www.igfmining.org> (accessed on 7 March 2024).

4 Under the 'arm's-length principle', prices between related parties should approximate the prices that independent parties would have agreed in the same circumstances. The OECD-endorsed methods to assess arm's-length prices require detailed, fact-intensive analysis of the specifics of the transaction. In particular, the analysis should consider the functions performed, assets used, and risks assumed by each transacting party.

less administrative burden or staff requirements and reduce room for administrative discretion and corruption if properly designed and implemented. Compared with technology-driven innovations and transparency frameworks, they require lower capital costs and lower investment in technology.

Certainly, prescriptive methods on their own involve complex design features and trade-offs: if overly rigid and too simplified, they may lead to distortions and economic inefficiencies; if, instead, open to complex adjustments, they offer scope for manipulation and are difficult to administer, frustrating their very rationale (Musselli and Bürgi Bonanomi, 2022; Picciotto, 2018). It is important to stress, in this respect, that many countries still make complex (and necessary) adjustments for quality differences/processing, which significantly complicate simplified methods.⁵ Yet a number of design features can help mitigate or reconcile such trade-offs, for example when some leeway is allowed for the taxpayer in a 'safe harbour' approach (Musselli and Bürgi Bonanomi, 2022, 455–56).⁶

While prescriptive methods may offer a valuable 'heuristic' (Musselli and Bürgi Bonanomi, 2022, 462) for countries with limited tax capacity, their adoption is 'deterred' by the perception that they deviate from established rules and principles and that they may give rise to legal liabilities (Brugger and Engebretsen, 2020). In fact, adoption of the above prescriptive methods implies changes in a state's regulatory or administrative practices. As briefly discussed in Section , regulatory changes that adversely affect the investor's position may trigger claims by foreign investors of 'unfair treatment' under applicable investment treaties. If the applicable law includes rigidly framed 'stabilisation' arrangements, even minor changes in tax practices might lead to assertions of a breach of an investment contract, when not of an investment treaty, depending on any concrete commitment. The threat of arbitration and compensation has a strong deterrent effect on developing countries,

5 For example, 'sixth method' approaches may allow for or require comparability adjustments to the quoted price to account for product quality and contract specifications (for a review, see CIAT, n.d.; Musselli, 2019; UN, 2017b). When commodities are traded in intermediary forms for which no public quotations exist, the quoted price of the final refined commodity is adjusted to 'netback' refining and treatment costs, freight charges and other costs incurred between the market pricing point and the relevant valuation point (Platform for Collaboration on Tax, 2017). In these cases, simplified methods still provide an important administrative benefit by shifting the burden of proof and documentation requirements.

6 Under such an approach, companies that transact at regulated prices are exempt from tax scrutiny, while those that depart from reference prices are required to justify their pricing methodology to the tax administration.

acting as a 'regulatory chill' that influences the course of policy development (Tienhaara, 2010).

Regulatory chill continues to persist notwithstanding the possible defences that host governments may have against arbitral claims arising from the adoption of predictive methods. Several defences find political support in the 2020 OECD Guiding Principles on Durable Extractive Industry Contracts,⁷ which, for example, exclude bona fide anti-avoidance measures from fiscal stabilisation provisions (OECD, 2020). From a political and legal point of view, this introduces the notion of revenue certainty for governments—the opposite of tax certainty. Additionally, there is little evidence of investors initiating legal action against prescriptive pricing approaches, and a lack of conclusive case law regarding stabilisation clauses and changes in fiscal and price terms (see Section 4). These factors alone should be sufficient to mitigate regulatory chill.

Against this background, this chapter addresses 'prescriptive' pricing methods within the parameters set by international investment law. It completes the legal analysis carried out elsewhere in respect of international tax and trade law (Musselli and Bürgi Bonanomi, 2022). As we did in that contribution, here we challenge the popular objection to prescriptive pricing methods as being in breach of international economic law. Instead, we emphasise the complexity of any legal assessment of prescriptive methods under international investment law, bringing to the fore a wide range of 'defence arguments' from investment law and beyond. In so doing, the chapter seeks to enrich the legal debate on price renegotiation and stabilisation regimes under international investment law. It moves beyond the wording of discrete stabilisation provisions, opening to broader jurisprudential arguments that embed considerations of equity and fairness into the fabric of international investment law.

The analysis is organised as follows: Section 2 provides a brief overview of various 'prescriptive' approaches to taxation, drawing on previous works by the authors (Musselli and Bürgi Bonanomi, 2021; 2022). Section 3 briefly considers major challenges to their implementation under international investment law, while highlighting the lack of conclusive case law. Section 4 delves into the wide range of defence arguments that states adopting prescriptive methods can mobilise under international investment law, as well as the challenges they may encounter. Section 5 broadens the scope of defence by exploring the right and duty of states to regulate corporate conduct and economic activities under human rights law, and what this means for legal reasoning. Section 6 concludes

7 Although the Guiding Principles are not an authoritative statement of relevant domestic and international law, they aim at facilitating a common understanding between the parties to a contract regarding their contractual relationship.

by examining practical limitations to the approach and the need for a new approach to lawmaking.

An important caveat is in order before proceeding further. The following analysis is general and partly speculative. It does not specifically assess the regulatory space a defined state has to pursue prescriptive methods under the applicable law. This would need to be assessed on a case-by-case basis considering any concrete contractual or legislative arrangement in force and the specific terms of the applicable investment treaty (Musselli and Bürgi Bonanomi, 2018, 459–60). Instead, the chapter makes more general remarks on possible legal constraints and defence arguments under international law, pointing to relevant aspects to be considered when assessing the validity of prescriptive methods under investment law.

2 An Overview of Prescriptive Approaches to Countering Commodity Trade Mispricing

This section provides a brief overview of a wide spectrum of ‘prescriptive’ approaches to taxation, outlining what they consist of without going deep into specifics. Attention is drawn to a spectrum of policy options that have been used or considered to curb mispricing practices in the commodity sector and related tax abuses. The various options are grouped under three headings, not without a certain overlap: the use of reference prices to determine the tax value of commodity export sales, prescriptive approaches to the valuation of deductible taxpayer costs, and simplified profit allocation methods. They are hereafter considered in turn. The analysis draws on previous works by the authors (Musselli and Bürgi Bonanomi, 2021; 2022).

2.1 *Mandated Use of Reference Prices for Valuing Commodity Export Sales*

Several countries concerned about systemic trade mispricing legislate the use of reference prices (with or without adjustments) to determine the tax value of commodity sales, particularly in the context of related-party sales. This is the so-called *sixth method* under transfer pricing law (for an overview of state practice, see CIAT (Inter-American Center of Tax Administrations), n.d.; Grondona, 2018; UN, 2017b, 217–19). Reference prices are price benchmarks compiled and published for reference purposes by commodity exchanges, other recognised market data providers, and government agencies (OECD, 2017 para. 2.18, ‘quoted prices’). Examples include prices discovered on the London Metal Exchange (LME) for base and ferrous metals, and prices listed on the

London International Futures and Forwards Exchange (LIFFE) for forward cocoa sales. In the context of transfer pricing laws, the sixth method requires looking at such reference prices when determining the fair market value of commodity sales. The requirement concerns taxpayers, when filing their tax returns, and/or tax administrations, when auditing the taxpayer's position. The more straightforward the requirement is (use of reference prices without adjustment, or with standardised/minimum adjustments), the more it departs from business practice and transactional 'arm's-length' rules (as codified in the OECD Transfer Pricing Guidelines, OECD, 2017).⁸

Other prescriptive methods use reference prices to legislatively set the tax value of commodity sales (Musselli and Bürgi Bonanomi, 2022, 453). This occurs under *administered pricing* regimes, where the government, rather than the taxpayer, determines the value of the transaction for tax purposes (for examples, see Durst, 2016; Readhead, 2018). In other words, the relevant authority sets and uses calculated prices—rather than actual transaction prices—to determine the income-based taxes and royalties considered due. Differently from the sixth method, it is tax administrations, rather than the taxpayer, that set the value for tax purposes; the burden of requesting and proving adjustments to regulated prices lies with the taxpayer.

Finally, other prescriptive approaches do not simply set values for tax assessment purposes, but directly intervene regarding prices and price-related terms in contracts (for an overview, see Musselli and Bürgi Bonanomi, 2022, 453–54). An interesting development in this respect are the EGalim laws in France,⁹ which require that farmers propose prices on the basis of production costs and that inter-branch organisations develop benchmarks of production costs and market indicators (Delpech, 2021; Ministère de l'agriculture et de la souveraineté alimentaire, n.d.; Vogel and Vogel, 2018). Also of potential relevance are

8 While the use of reference prices as such does not represent a departure from the OECD Transfer Pricing Guidelines, limited/standardised adjustment to reference prices does. Indeed, the OECD Transfer Pricing Guidelines allow the use of reference prices as a starting point for identifying arm's-length commodity prices but subject to adjustments on a case-by-case basis to reflect the specifics of the case (the so-called comparable uncontrolled price (CUP) method). This reflects industry practice, whereby reference prices are routinely used by companies to price commodity transactions, but subject to context-specific adjustments that reflect location, supply and demand conditions, time and manner of delivery, quality standards for deliverable products, and other factors. Simplified, prescriptive methods favour instead standardised adjustments or no adjustment at all. In this respect, they depart from industry practice and the OECD methodology.

9 The so-called law EGalim 1 (Loi n° 2018–938 du 30 oct. 2018, JO 1er nov.) and EGalim 2 (Loi n° 2021–1357, 18 oct. 2021, JO 19 oct.).

those laws or regulations, whether sector-specific or general, that render certain price-related terms in contracts ineffective.¹⁰ Such rules on unfair trading practice do not regulate prices directly, but they may affect the way prices are negotiated and set.

2.2 *Regulated Valuation of Deductible Taxpayer Costs*

While the aforementioned techniques aim to prevent the undervaluation of commodity exports, there are other methods that incorporate prescriptive elements to determine deductible taxpayer costs (Durst, 2016). The main emphasis here is on the input aspect of the commodity trade equation, which includes the cost of services, supplies, and equipment acquired from affiliated entities. Additionally, intra-group funding is also considered (Durst, 2016). As Durst has pointed out, certain prescriptive methods implement 'bright-line' limitations on deductible expenses for taxpayers, with the goal of maintaining the taxable base in 'source countries' (Durst, 2016, 11–14). In certain situations, such as intra-group transactions, the law may prohibit markups on costs for tax purposes.¹¹ A less severe approach is to establish legally defined profit margins and markups for tax assessment purposes.¹² Some schemes and model laws further disallow tax deductions for the use of intangible properties, including technological know-how.¹³ Going one step further, several countries have implemented bright-line interest limitation rules that restrict the amount of deductible interest to a certain percentage of a company's earnings.¹⁴ Another

10 Many EU Member States, for example, have implemented national rules on unfair trading practices in separate legislation, within their competition laws, or in their civil code (Cafaggi and Iamiceli, 2019; Falkowski et al., 2017). At the EU level, Directive 2019/633 prohibits specific types of unfair trading practices (see, e.g., Daskalova, 2019; 2020). Typically, the legislation contains a grey list of terms that may be regarded as unfair, and a blacklist of terms that are automatically ineffective.

11 For example, Article 7 (3) of the *United Nations Model Double Taxation Convention between Developed and Developing Countries* (UN, 2017a) disallows deductions for amounts 'paid' by a permanent establishment to its head office, beyond reimbursement of actual expenses incurred by the head office for the permanent establishment.

12 On a transactional basis, for example, Brazil's transfer pricing legislation sets forth fixed profit margins and markups for related-party imports and exports (Calich and Rolim, 2012; Ilarraz, 2014; Rocha, 2017; Valadão, 2016; Valadão and Lopes, 2013).

13 For example, Article 7 (3) of the *United Nations Model Double Taxation Convention between Developed and Developing Countries* (UN, 2017a) disallows deductions for royalty payments in calculating the taxable profit of the permanent establishment of a multinational enterprise (MNE).

14 OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) Action 4 recommends limiting an entity's net deductions for interest to a ratio of between 10 and 30 per cent of a company's earnings before interest, taxes, depreciation and amortisation

solution to make up for the decrease in taxable income caused by making too many payments to foreign affiliates is to impose withholding taxes on outbound payments (Meyer-Nandi, 2018). As summarised elsewhere (Musselli and Bürgi Bonanomi, 2021), all such rules set bright-line restrictions designed to preserve the taxable income of subsidiaries within multinational groups.

2.3 *Regulated Allocation of Profits*

Earlier we discussed schemes that primarily deal with transactions. However, there are also prescriptive methods that concentrate on distributing profits among the different parts of a multinational enterprise (MNE) instead of assessing transactions. For example, proposals have been made for local subsidiaries to be assigned a profit margin in proportion to that of the MNE as a whole (shared net margin method) (Rao, 2018). More complex fractional apportionment methods may be used to allocate a percentage of the MNE's global income to the local subsidiary or establishment, taking into account factors that reflect its substantial activities in the jurisdiction, such as employee count, asset size, and sales in the jurisdiction (for an overview, see Picciotto, 2018). Other prescriptive approaches recommend setting minimum operating margins for various types of businesses, which can serve as a safe harbour in certain situations (Rao, 2018). If taxpayers report their taxable incomes within the safe harbour level, they will be protected from transfer pricing scrutiny. A related method involves setting a minimum tax (Durst, 2012, 647; Picciotto, 2018). This tax is based on a gross base, such as turnover, which is less susceptible to manipulation than net income. These approaches can all be implemented unilaterally by host countries as anti-abuse mechanisms in the context of diffuse trade mispricing. They essentially constitute anti-abuse measures, or safeguards against prominent forms of corporate abuse.

3 Possible Challenges under Investment Law

The adoption of the above prescriptive methods implies changes to a state's regulatory or administrative practices. These changes will affect investors, impinging on their expectations that the existing regulatory framework will remain in place. Thus, any state that decides to reform its legislative

(OECD, 2015). It has been noted that these interest limitation rules may affect the tax position of investors. This includes asset managers, asset holding companies, and downstream investment structures. As a result, the cost of investment funding may increase (Colreavy, 2021).

environment in pursuit of the prescriptive methods discussed above may face challenges under international investment law.

Depending on jurisdictional requirements and any concrete commitments,¹⁵ a state's regulatory adjustment of the existing tax regime or contractual price terms may trigger claims by foreign investors of 'unfair treatment' under applicable investment treaties. The customary minimum standard of 'fair and equitable treatment' has been interpreted to include legitimate expectations regarding a predictable business environment.¹⁶ The standard may be interpreted to cover legislative changes that might adversely affect the investor's position.¹⁷

This leads us to the more specific issue of 'stabilisation clauses' that protect foreign investors against change-in-law risks. Stabilisation clauses are commitments whereby the state undertakes not to use its administrative or legislative powers in a way that adversely affects investors. Such clauses come in a variety of forms. They can be contractual clauses in investment contracts, legislative stability provisions in domestic law, or clauses enshrined in investment

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- 15 The regulatory space a country has to implement prescriptive methods legally can only be assessed in context, in the light of any relevant treaty and contractual and regulatory arrangements (Muselli and Bürgi Bonanomi, 2022, 459–60). Yet some general remarks can be made regarding contractual and treaty clauses that may limit states' right to renegotiate price terms in investment contracts or amend their tax regimes to implement prescriptive approaches.
- 16 See, e.g., *Eco Oro Minerals Corp. v Republic of Colombia*, ICSID Case No. ARB/16/41, Decision on Jurisdiction, Liability and Directions on Quantum (9 September 2021), paras. 705–710, 717. On legitimate expectations under the fair and equitable treatment standard, see, e.g., *Thunderbird v Mexico*, Award (26 January 2006); *Gold Reserve v Venezuela*, ICSID Case No. ARB(AF)/09/1, Award (22 September 2014); *Díaz Gaspar v Costa Rica*, ICSID Case No. ARB/19/13, Award (29 June 2022). Furthermore, some arbitral tribunals have equated the stability requirement under the fair and equitable treatment standard with the same requirement existing under the international minimum standard of treatment; see, e.g., *CMS v Argentine Republic*, ICSID Case No. ARB/01/8, Award (12 May 2005) and *Occidental v Ecuador (I)*, LCIA Case No. UN3467, Award (1 July 2004).
- 17 See, e.g., *LG&E Energy Corp., LG&E Capital Corp. and LG&E International Inc. v Argentine Republic*, ICSID Case No. ARB/02/1, Award (25 July 2007). It has often been held that only drastic, sweeping, or unreasonable modifications to a regulatory framework relied on by an investor may rise to the level of fair and equitable treatment violation; see, e.g., *Eiser v Spain*, ICSID Case No. ARB/13/36, Award (4 May 2017) and *Silver Ridge v Italy*, ICSID Case No. ARB/15/37, Award (26 February 2019). Yet investment tribunals have expressed sometimes conflicting views on the matter. For example, some tribunals have held that the state's reasons for its reform are irrelevant to the question of liability; others have taken the view that the state has the right to make reasonable adjustments to its regulatory environment, even those affecting investors (for a review, see Hailes, 2022, 168–90; Henckels, 2015, 4).

treaties. They may be general, covering the whole legal framework, or specific, covering, for example, the tax regime or specific taxes. They may exempt the investment from regulatory changes ('freezing' clauses *stricto sensu*), compensate for any financial losses related to changes in laws ('general equilibrium' clauses) or provide for the renegotiation of contract terms (Gjuzi, 2018, 11–87; Loncle and Philibert-Pollez, 2009, 274–79). Whatever their form, scope and impact, stabilisation clauses have in practice 'a chilling effect on governments who wish to enact new legislation for fear of being sued in international arbitration' (Smaller et al., 2014, 6).

A related constraint arises from the 'repackaging' of contractual and commercial claims into treaty claims under so-called umbrella clauses in investment agreements. Broadly worded, an umbrella clause provides that each state party to the investment treaty shall observe any other obligation it has assumed regarding the investor or the investment in its territory.¹⁸ Such clauses may render the host state internationally liable under the investment treaty for breach of obligations stemming from investment contracts and/or domestic law.¹⁹

The threat of arbitration and compensation has a strong deterrent effect on developing countries, acting as a 'regulatory chill' that hinders policy development (Tienhaara, 2010). This 'chilling effect' is amplified by the fact that arbitral awards are often binding, final, and immune from review, even if the tribunal made legal errors in determining liability (for a discussion, see Henckels, 2015, 2–7). Low-income countries are especially vulnerable to these

18 See, e.g., Article 9(2) of the Germany–Ghana BIT (1995) ('(2) Each Contracting Party shall observe any other obligation it has assumed with regard to investments in its territory by nationals or companies of the other Contracting Party'). Similar language can be found in Article X of the Switzerland–Philippines BIT (1997), Article 2(2) of the Australia–Hong Kong BIT (1993) and Article 8(2) of the Germany–Jordan BIT (2007).

19 Although frequently found in BITs, the effect of umbrella clauses is still being debated. While most arbitral tribunals have understood that such clauses require states to maintain and enforce their commitments to investors, it is not clear whether such clauses cover only breaches of contracts or also undertakings related to the exercise of sovereign powers; see, e.g., *Supervision v Costa Rica*, ICSID Case No. ARB/12/4, Award (18 January 2017); *Strabag v Lybia*, ICSID Case No. ARB(AF)/15/1, Award (29 June 2020). While some investment tribunals have held that umbrella clauses 'internationalise' contracts and unilateral undertakings of the host state (e.g. *Noble Ventures, Inc. v Romania*, ICSID Case No. ARB/01/11, Award (12 October 2005), umbrella clauses are more widely regarded as having a jurisdictional function, allowing contractual claims to be analysed by the competent investment tribunal against applicable domestic law, as the case may be (e.g. *Consutel Group v Algeria*, PCA Case No. 2017–33, Final Award (3 February 2020). For this reason, recent treaty-making has witnessed a trend of the express exclusion of umbrella clause disputes from the scope of the consent to arbitrate, as in Article 11(3) of the Colombia–Switzerland BIT (2006).

threats as they may not have the resources to match the legal power of large corporations and could end up having to pay high amounts in compensation.

This in spite of the fact that relevant case law on the matters raised above—namely, the scope of fair and equitable treatment standards, stabilisation clauses, and the elevation of claims from domestic to international law—is far from conclusive. As regards stabilisation clauses, for example, while in some arbitration awards such clauses are strictly upheld by the adjudicator, other cases recognise specific defences from domestic and international law as applicable in investment and commercial arbitration²⁰ (for a review, see Viñuales, 2020). Some investment cases point to a nuanced scenario whereby fiscal incentives, including stabilisation commitments, ‘may be adjusted within the bounds of reasonableness and proportionality’ (Hailes, 2022, 168). As we will point out in the concluding section of this chapter, legal interpretations of the issue are ‘fluid and contested’, shaped by a ‘social process of interpretation’ in what has been termed ‘the inherent indeterminacy of the law’ (Miola and Picciotto, 2022, 155–56).

4 Defence Arguments under International Investment Law

As briefly discussed above, there is lack of conclusive case law on the matter of the legality under international investment law of well-designed prescriptive methods implemented in the public interest despite stabilisation arrangements. However, when it comes to legal reasoning, developing countries that unilaterally adopt bona fide prescriptive measures to address tax abuse would have strong legal defence arguments in favour of such measures. Drawing on Viñuales’s comprehensive analysis of ‘defence arguments’ under investment law (Viñuales, 2020), we introduce three broad sets of ‘defences’ that can be mobilised to justify a shift from transaction-based valuation systems to alternative, prescriptive valuation methods. Arguments in the first of these three sets are based on considerations of wrongdoing by the investor; those in the second are generally available excuses that can be invoked as circumstances precluding wrongfulness; the third set is based on the assessment of overarching public interests. Such defences may arise from international law, domestic

20 See, e.g., *Watkins v Spain*, ICSID Case No. ARB/15/44, Award (21 January 2020); *Oxus Gold v Uzbekistan et al.*, Award (17 December 2015); *Masdar Solar v Spain*, ICSID Case No. ARB/14/1, Award (16 May 2018); *Total v Argentine Republic*, ICSID Case No. ARB/04/1, Decision on Liability (27 December 2010); *Burlington Resources, Inc. v Ecuador*, ICSID Case No. ARB/08/5, Decision on Liability (14 December 2012).

law, or both, and intervene at different stages (jurisdiction/admissibility, liability, quantum/compensation) (Viñuales, 2020, 13–18).²¹

4.1 *Allegations of Wrongdoing by the Investor*

The first set of arguments is based on allegations of wrongdoing by the investor who is seeking protection under a treaty. They rely on a variety of legal concepts—from ‘illegality of the investment’ to ‘contributory fault’—that have been invoked to exclude jurisdiction/make the claim inadmissible or reduce the compensation due. As discussed below, the factual configurations involved differ, as do their implications.

At one extreme are allegations of corruption surrounding the investment whose protection is sought. Let us consider, for example, the award of a mineral concession whose financial terms result from political capture and interference, conflicts of interest, bribery, etc. In our hypothetical case, the government subsequently modifies or abrogates the concession, or adjusts its price/financial terms by adopting prescriptive valuation methods. The investor claims compensation for the loss of economic benefit. If corruption is proven, a defence would be that the investment is illegal and does not deserve protection since the benefits of an investment treaty are reserved for lawful investments.²² For example, as reviewed by Viñuales (2020), in *Metal-Tech v. Uzbekistan* the tribunal concluded that it lacked jurisdiction over the treaty claims since the investor had violated Uzbekistan law on corruption in connection with its investment in Uzbekistan and hence the investment was not covered by the applicable treaty. Article 1(1) of the applicable Israel–Uzbekistan BIT (a legality clause) defined investments as only those implemented in compliance with local law.²³ The illegality defence can be grounded in the applicable treaty (e.g. a legality clause, as in the above case), or stem from the ‘implicit understanding that illegal investments do not deserve protection’ (Viñuales, 2020, 20). If proven, the illegality of the investment may exclude jurisdiction (the investment treaty does not apply) or make the claim inadmissible.

21 For a more comprehensive review of ‘defence arguments’ under investment law, the reader is referred to Viñuales’s comprehensive review of 23 categories of defence arguments in investment arbitration, some of which may be relevant in our case (Viñuales, 2020).

22 Since the prohibition of corruption is an important public provision established in the public interest in virtually all domestic legal systems, a corrupt deal could be easily seen as a form of aggravated illegality that excludes jurisdiction or make a protection claim inadmissible.

23 Accordingly, the adjudicator concluded that the dispute did not fall within the scope of the treaty. *Metal-Tech Ltd. v Republic of Uzbekistan*, ICSID Case No. ARB/10/3. The claim concerned a joint venture for the extraction and commercialisation of molybdenum.

Practical difficulties may arise in connection with the burden and standard of proof, particularly in a context where company directors and managers remain intentionally unaware of the details ('wilful blindness' or 'conscious avoidance'). Case law has endorsed a high standard of proof,²⁴ suggesting that red flag indicators raising suspicions regarding corrupt activities would, in principle, not be enough (for a more detailed assessment, see Viñuales, 2020, 46–49). This makes the detection and sanctioning of corruption difficult. The problem is compounded when the investment is made through a third party who engages in corruption. In this case the critical factor is the level of institutional control and oversight deployed by the investor in relation to the process. Failure to exercise due diligence, or fraud in the form of 'wilful blindness', may still matter when assessing the admissibility of a compensation claim (for a discussion, see Viñuales, 2020, 49–51).

Let us now move on to consider subsequent financial misconduct by foreign investors, for example when companies engage in abusive transfer practices and other tax avoidance techniques. The question is, if the host state implements prescriptive taxation methods as anti-avoidance measures in response to an investor's abusive tax avoidance, can the investor use a stabilisation clause to seek compensation? More generally, does an investor who engages in unlawful tax avoidance deserve the protection of the investment treaty? As held by the tribunal in *Lao Holdings v. Laos*, serious financial misconduct by investors in the host country, in breach of their good faith obligations, is not without treaty consequences: it bears implications in relation to the guarantee of fair and equitable treatment, as well as to investors' entitlement to compensation.²⁵

24 The precise standard of proof required by tribunals has seen some variation in case law. For instance, in *Karkey v Pakistan*, the tribunal was satisfied with 'clear and convincing evidence' of corruption, meaning unequivocal or unambiguous prima facie evidence; while in *Metal-Tech v Uzbekistan* the tribunal circumvented a clear assertion of the required standard of proof and rather pointed towards a balance of probability, considering whether corruption had been established 'with reasonable certainty'. In any event, practice suggests that global circumstances take precedence over any formal standards of proof in the consideration of corruption claims (Viñuales, 2020, 47–49).

25 *Lao Holdings N.V. v Lao People's Democratic Republic*, ICSID Case No. ARB(AF)/12/6, Award (6 August 2019), paras. 7, 105–106. In the case at hand, the tribunal held that there was sufficient evidence of serious financial misconduct by the investor in the establishment and operation of accommodation and gambling facilities in the host state, even though allegations of corruption could not be established. A series of actions attributed to the investor suggested impropriety in the interest of obtaining or retaining business, which made treaty protection claims inadmissible. While the 'clean hands' doctrine was said to have a disputable basis in international law, the tribunal nonetheless held that its rationale remained operative as a matter of equity. For a discussion, see Viñuales (2020, 95–96).

In such contexts, a variety of concepts grounded in domestic and international law ('unclean hands', 'causation', 'contributory fault') may operate to reduce or suppress the compensation due (quantum) in investment disputes (Viñuales, 2020, 96). They operate in international law as a matter of 'equity'. The underlying rationale is that damages arising from a claimant's misconduct should not be compensated because such misconduct is their cause (Viñuales, 2020, 95). The practical difficulty is establishing a clear causal relationship between the investor's (mis)conduct and the challenged measure. It is equally challenging to identify and provide evidence of illegal tax avoidance practices, especially in situations where legal and administrative resources are limited (Musselli and Bürgi Bonanomi, 2020).

The above arguments essentially intervene at the quantum/compensation stage. Beyond compensation, the doctrine of 'abuse of right' is a legal concept that can impact liability and the admissibility of a claim. Under case law, the 'abuse of right' doctrine has been used to deny protection in situations involving 'abusive restructuring'²⁶ or 'multiple suits'²⁷ (Viñuales, 2020, 42–46). Our hypothetical case involves a different set of circumstances. Specifically, it concerns an investor who has engaged in tax abuse and is now seeking compensation due to a tax reform that aims to prevent such abusive practices. The effectiveness of the 'abuse of right' defence forwarded by the state would depend on how the adjudicator defines the requirements of this defence in the dispute context, and their more or less restrictive character.

More generally, in international law the doctrine of abuse of right is an expression of the principle of good faith (Viñuales, 2020, 42). Transposed to the field of investment protection and extended to investors, good faith would require a reasonable exercise of the investors' protection rights, in furtherance of the *legitimate* interest that the rights are intended to protect. In our context, considerations of good faith and investors' due diligence come into play, for example, in determining whether the adoption of prescriptive pricing methods encroaches on the *legitimate* economic expectations of an investor.

4.2 *Generally Available Excuses*

Some 'general excuses' can be invoked under international investment law as circumstances precluding wrongfulness: the treaty is technically breached, but

26 This refers to a situation where an investor, who is not protected by an investment treaty, restructures its investment to fall under the coverage of a treaty in view of a specific foreseeable dispute.

27 A scenario where companies within the same group routinely bring claims against the same measures under various treaties.

the breach is excused. In domestic law, for example, the defence may build on concepts of 'hardship' or 'unforeseeability', equated with the French '*théorie de l'imprévision*'; in international law, the same rationale underpins the customary *rebus sic stantibus* clause codified in Article 62 of the Vienna Convention on the Law of Treaties (Viñuales, 2020).

Such excuses generally refer to a fundamental change of the circumstances in which an agreement was concluded.²⁸ For example, booming demand and supply scarcity for some critical minerals in the clean energy transition may lead to a fundamental supply/demand imbalance that may require a renegotiation of pending contracts. The objective would be to re-establish the balance of the contract in a changed scenario.

Yet the availability of this defence depends on various requirements that can be interpreted with varying levels of strictness in the dispute context. To be successful, for example, a plea of 'hardship' must meet stringent requirements—drawing from contract law and practice. As codified in model contract law (Article 6.2.2 (b) and (d), the International Institute for the Unification of Private Law (UNIDROIT) Principles), 'hardship' may not be invoked if, for example, adverse price developments could reasonably have been taken into account by the disadvantaged party at the time the contract was concluded, or when the risk of the events was assumed by the disadvantaged party. This seems to apply to price fluctuations that are a result of market fundamentals and business cycles, which cannot be considered unforeseeable.²⁹ Eventually, as discussed in the concluding section of this chapter, much depends on the standard of review adopted by the adjudicator when scrutinising the factual and legal aspects of the state's decision.

28 Drawing on (model) private law, there is 'hardship' where 'the occurrence of events fundamentally alters the equilibrium of the contract either because the cost of a party's performance has increased or because the value of the performance a party receives has diminished' (first part of Article 6.2.2 of the UNIDROIT Principles of International Commercial Contracts). In simpler terms, there is hardship when an event fundamentally alters the contract's equilibrium because of increased cost or diminished value of performance received.

29 In some cases, however, unexpected events such as the COVID-19 pandemic can cause a price shock that could not have been predicted at the time a contract was made. In such situations, it may be reasonable to argue that the party that was negatively affected by the price increase could not have reasonably anticipated the event at the time the contract was concluded.

4.3 *Public Interests*

Finally, a range of defence arguments support the view that a state can permissibly regulate in the public interest without being liable for compensating the investor. This argument is based on legal concepts of ‘police powers’ and ‘international public policy’. The exercise of ‘police powers’ refers to the exercise of governmental functions.³⁰ This notion, grounded in general international law, acknowledges a state’s ‘entitlement, indeed [its] duty to regulate’ (Viñuales, 2020, 66), and posits that ‘the exercise of regulatory powers is permitted unless prohibited’ (Viñuales, 2020, 66). The principle acknowledges that the exercise of police powers may be subject to limitations, including by treaty norms such as investment protection standards. Going one step further, ‘international public policy’ commonly refers to ‘a narrow core of principles of fundamental importance to a wide number of legal orders’ presumed to ‘override any inconsistent instrument, agreement or claim’ (Viñuales, 2020, 35). The notion is generally advocated when tensions arise with higher-ranking values that cannot be superseded transactionally, such as ‘public order’ and ‘human rights’. This brings us to the following section, which explores human rights claims.

5 Counterarguments under Human Rights Law

In Section 4 we discussed the ‘defence arguments’ a state can mobilise under international investment law. This section will explore a different approach and briefly touch upon the ‘counterclaims’ that a state can present to assert its right to regulate in the public interest. These claims are based on human rights law and public policy. Although they are similar to the legal grounds for defence that we previously discussed in Section , they serve as a source of rights and legal claims rather than as a defence.

5.1 *A Human Rights Framing of the Issue*

If we were to approach the issue from the perspective of human rights law, we would follow this line of reasoning:

- Commodity trade mispricing and tax avoidance have significant human rights impacts: they prevent developing countries, and especially the least developed, from mobilising and spending the public

30 The term ‘police’, in its original English, coming from the Greek *politeia*, i.e. ‘policy’ or ‘government’ (Viñuales, 2020, 60).

financial resources required for inclusive and equitable social and economic development;

- Under human rights law, the state has the obligation to respect, protect—including from deprivation by third parties—and fulfil human rights;
- In the exercise of this duty to protect and fulfil, the state has the right (and duty) to regulate corporate abuse tightly, including by enacting effective anti-abuse measures.

Thus, in contexts where undervalued commodity exports and profit shifting drain development resources, prescriptive measures to address mispricing and tax avoidance may be explicitly anchored in a state's duty to protect against human rights abuses by third parties, and to progressively realise human rights (CESCR, 2017).

A rigid application of stabilisation clauses implies that states agree to refrain from using their legislative or administrative prerogatives in a manner that adversely affects the investor. Under human rights law, this would directly encroach on the state's obligation to fulfil human rights and to protect them from deprivation by third parties.³¹ Regarding contractual and legislative stabilisation clauses in particular, there is an issue of ranking between international law commitments—in the field of human rights—and the contractual/legislative stabilisation mechanism. Importantly, Principle 4 of the Office of the United Nations High Commissioner for Human Rights (OHCHR) 2015 Principles for Responsible Contracts (OHCHR, 2015) focuses on stabilisation

31 See *Sempra v Argentina*, ICSID Case No. ARB/02/16, Award (28 September 2007), paras. 331–332; *Feldman Karpa v Mexico*, ICSID Case No. ARB(AF)/99/1, Award (16 December 2002), para. 103; and *Phoenix Action Ltd. v Czech Republic*, ICSID Case No. ARB/06/5, Award (15 April 2009), para. 78. The mobilisation of human rights defences in scenarios where a legitimate expectation of stability might exist is still nascent but may arguably be seen in *Veolia Propreté v Egypt*, ICSID Case No. ARB/12/15, Award (25 May 2018), paras. 19, 181, 215 and 234. Among other issues, the case concerned a change of minimum wage legislation made by the host state in opposition to economic balance commitments made to the investor, which rendered contractual obligations for the latter more onerous. The respondent prevailed. Otherwise, human rights defences have been raised in connection with the rights of indigenous peoples and minorities in *South American Silver v Bolivia*, PCA Case No. 2013–15, Award (22 November 2018), paras. 638–640 and *Houben v Burundi*, ICSID No. ARB/13/7, Award (12 January 2016), para. 177; the right to water in *CMS Gas Transmission Co v Argentina*, ICSID Case No. ARB/01/8, Award (12 May 2005); consumer rights in *Azurix v Argentina*, ICSID Case No. ARB/01/12, Award (14 July 2006), para. 254; and the rights to life, health, education and personal integrity in *EDF and others v Argentina*, ICSID Case No. ARB/03/23, Award (11 June 2012), para. 192.

clauses: while recognising investors' need for financial stability, the Principles underscore that stabilisation clauses have the potential to restrict states' policy space in areas of human rights. The Principles for Responsible Contracts recommend that if stabilisation clauses are included in contracts, they should be 'carefully drafted so that any protections for investors against future changes in law do not interfere with the state's bona fide efforts to implement laws, regulations or policies, in a non-discriminatory manner, in order to meet its human rights obligations' (OHCHR, 2015, 15).

5.2 *Conflict Resolution and Conflict Avoidance*

Under public international law, how will the adjudicator proceed when stabilisation commitments prevent states from adopting anti-abuse measures in the public interest? There are two possible approaches: one involves regime conflict and conflict resolution techniques, while the other emphasises interpretation and conflict avoidance.

5.2.1 Relationship of Conflict

The first approach recognises that conflicts of law may arise between two bodies of law that impose conflicting requirements on host states: human rights law and investment treaties with stabilisation clauses. This reflects a situation whereby specialised lawmaking systems such as 'human rights law' and 'investment law', each possessing its own principles and institutions, have evolved 'with relative ignorance of legislative and institutional activities in the adjoining fields and of the general principles and practices of international law' (International Law Commission, 2006, para. 8). The result is 'conflicts between rules or rule-systems, deviating institutional practices and, possibly, the loss of an overall perspective on the law' (International Law Commission, 2006, para. 8).

If permitted under the applicable law, the adjudicator will then resort to techniques of conflict resolution in its efforts to deal with tensions between legal rules and principles in public international law. There are well-established legal techniques (*lex specialis*, *lex posterior*, *lex superior*) capable of resolving normative conflicts or overlaps (International Law Commission, 2006). One relevant technique in our context may be the maxim *lex specialis derogat legi generali*. It suggests that 'whenever two or more norms deal with the same subject matter, priority should be given to the norm that is more specific' (International Law Commission, 2006, 105). The risk is that the adjudicator comes to the conclusion that human rights law does not contain an obligation that is sufficiently unconditional and precise to challenge the validity of

detailed investment treaty clauses.³² The *lex superior* (hierarchy) rule may also play a role. It posits that some rules of international law enjoy a superior position. Article 103 of the United Nations (UN) Charter stipulates that the obligations of UN Member States under the Charter prevail, in the event of a conflict, over their obligations under any other international agreement. The Article has been taken to suggest that the Charter-endorsed promotion and protection of human rights constitutes an international public order to which other treaty regimes must conform. Yet the scope of the supremacy clause of the UN Charter is not settled and its precise meaning and scope of application are contested (Liivoja, 2008).

5.2.2 Relationship of Interpretation

A second approach seeks to avoid or mitigate conflict through 'systemic integration', or 'harmonisation', instead of conflict (International Law Commission, 2006). This involves using legal reasoning to reconcile seemingly conflicting provisions 'as parts of some coherent and meaningful whole' (International Law Commission, 2006, para. 414). The approach moves from the assumption that, in international law, there is a strong presumption against normative conflict (International Law Commission, 2006, para. 37). It restates the applicability of general international law in treaty practice. Going one step further, it leads to a constructive generalisation of the core values of multi-layered legal orders, integrating into the process of legal reasoning 'a sense of coherence and meaningfulness' (International Law Commission, 2006, para. 419).

Moving from a 'systemic' approach to international law, the adjudicator may argue that the use of prescriptive methods provides greater certainty and predictability, which are the very objectives of investment protection law. Indeed, well-designed prescriptive methods provide the predictability and certainty required for economic actors to plan their transactions and can be seen as a way to interpret the arm's-length principle in a transparent and predictable manner. By emphasising the importance of stability and predictability in legal systems, the adjudicator would reconcile seemingly conflicting provisions through interpretation. This links with the fact that legal rules are 'normative',

32 In the Kokopelli case (Case C 59/11 *Association Kokopelli v Graines Baumaux*), for example, the Court of Justice of the EU concluded that the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) did not include any provisions that, as regards their content, were unconditional and sufficiently precise as to challenge the validity of EU seed marketing legislation. The case opposed human rights and business claims in relation to the EU prohibition to market seeds of non-registered varieties.

which means that their interpretation is necessarily ‘purposive’ (Miola and Picciotto, 2022, 156).

This approach also means that adjudicators should find a way to balance both the investor’s (legitimate) expectations and the host state’s right to regulate in the public interest (Gehne and Brillo, 2014; Gjuzi, 2018). The approach has implications for the ‘method’ and ‘standard of review’ employed by the adjudicator.³³ In reviewing the prescriptive measure, the adjudicator should strike the right balance between overseeing a state’s compliance with its obligations under the investment treaty and respecting the state’s right to regulate in the public interest (Bürgi Bonanomi, 2015; Henckels, 2015). Some suggest that a ‘proportionality analysis’ approach to review, along with an appropriate level of deference in situations of normative or empirical uncertainty, would help achieve this balance (Henckels, 2015, 193–94). The approach entails a method of review whereby the adjudicator assesses the legitimacy of the objective of the measure, its suitability to achieve its stated objective, its necessity, and possibly the importance of achieving the objective vis-à-vis competing interests, with appropriate deference to the regulating state in situations of normative uncertainty.³⁴ When evaluated under this method and standard of review, prescriptive methods are considered proportional means to achieve desirable outcomes if they are non-discriminatory and rationally connected to their stated goal, more effective than less restrictive methods in reaching their objective, and designed in a balanced manner (based on market data and industry practices) (for more details, see Musselli and Bürgi Bonanomi, 2022).

33 A method of review is ‘a technique used by adjudicators (such as proportionality analysis) to determine the permissibility of interference with a right or interest’, whereas the standard of review ‘refers to the intensity with which the method of review is applied—whether taking a strict or more deferential approach’ (Henckels, 2015, 31). Together, they are the ‘critical factor’ in the tribunal’s determination of whether a government may permissibly regulate in the public interest without being liable for compensation to the investor (Henckels, 2015, 31).

34 As developed in administrative law in continental Europe, the doctrine of proportionality ‘requires public restrictions of fundamental rights of citizens to be effective, efficient and adequate in order to be legitimate’ (Bürgi Bonanomi, 2015, 151). The first dimension—*effectiveness*—considers the adequacy of a measure to reach a desired objective. The second aspect—*efficiency*—considers whether the regulatory action ‘is the mildest among those theoretically fit to achieve the same practical goal’, by intervening ‘as little as possible’ (Bürgi Bonanomi, 2015, 151). The third aspect—*proportionality in the narrowest sense*—calls for overall balancing of interests. It necessitates considering the objective pursued against the interests and values sacrificed in its pursuit. It implies that the policy measure ‘is balanced and that the associated trade-offs do not stand in disproportion to the goals that are to be achieved’ (Bürgi Bonanomi, 2015, 151).

6 Concluding Remarks

As discussed in the previous sections, in theory host states can mobilise different legal constructs and principles, and adjudicators can use suitable interpretative and judicial review methods to allow for effective, non-discriminatory and bona fide prescriptive methods. Deductive reasoning and doctrinal analysis—and some arbitral jurisprudence—provide some interpretative leeway under international investment law for prescriptive methods aimed at addressing abusive commercial practices. Case law and the scholarly debate emphasise principles of good faith, investors' due diligence, and proportionality as legal reasoning instruments that soften the interpretative rigidity of investment protection clauses.

In practice, however, whether the lines of defence here discussed will be upheld by an adjudicator in a specific case depends on various factors. These include the inclination of the adjudicator to apply public international law principles to investment disputes instead of solely considering the investment treaty on its own in isolation from the broader body of international law. It also depends on the set of legal norms that the parties agree would apply to the contract, and their choice of the relevant forum to adjudicate disputes.

As discussed, much also depends on the 'standard of review' employed by the adjudicator with reference to 'the degree of scrutiny' of the state's decision by an adjudicator. This is also a matter of legal culture and legal context. A stringent, 'intrusive' standard of review would result in the strict oversight of a state's compliance with its treaty obligations; a more 'deferential' approach would substantially defer to the national authority when assessing the right of the state to regulate in the public interest without being liable to compensate a foreign investor.

Finally, the outcome of an investment dispute regarding the implementation of prescriptive valuation methods would ultimately depend on specific contextual and legal details, such as the specific wording of the relevant treaty and contractual and regulatory arrangements in place. For example, a stabilisation clause that explicitly freezes the financial terms of an investment is less amenable to purposive interpretation than a stabilisation clause that requires compensation for financial losses relating to changes in law.

Ultimately, the lines of defence here discussed may or may not be upheld by the adjudicator, depending on the unique legal and factual aspects of the case, the specific practices of legal interpretation deployed and the varying socio-legal contexts in which they are embedded. This reflects the 'inherent indeterminacy of the law', whereby legal concepts are abstract and general, leaving room for interpretation in specific situations (Miola and Picciotto, 2022, 156). Which

brings back the importance of prescriptive valuation methods as a way to manage legal uncertainty. Well-designed prescriptive methods provide predictability and certainty, narrowing the broad scope for judicial interpretation of legal principles such as the arm's-length principle. By taking a formulaic, textualist approach to lawmaking, prescriptive methods move away from imprecise and open-textured norms that require determination of the legal outcome based on interpretation. This shift to bright-line rules reduces legal uncertainty and the indeterminacy of legal outcomes, which abusive corporate practices have so prominently exploited so far.

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Tax Reforms in Hydrocarbons and Mining in Chile, Colombia and Peru 2021–2023

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Abstract

The objective of this chapter is to analyse the impact of recent tax reforms implemented by newly elected governments in Chile, Colombia and Peru, with special emphasis on the extractive industries. We focus on the need to improve the domestic capacity of tax and other revenue collection if the United Nations Sustainable Development Goals are to be achieved.

Tax reform projects are an important tool for natural-resource-rich countries as they allow them to promote tax progressivity by levying wealth and capital income, as stated at the First Latin American Summit for an Inclusive, Sustainable and Equitable Global Tax Order, held in Cartagena, Colombia in July 2023.

This chapter analyses the results of the various policies, the difficulties encountered, the need to reach a consensus for tax reforms to be approved, the link between tax reforms and international proposals, and the extent of the changes needed to increase tax collection in order to meet outstanding social and environmental challenges.

1 Introduction

The economies of Latin America experienced significant economic growth from 2004 to 2013 due to the super-cycle of high commodity prices driven by the industrialisation of China. This period of high growth in the region was complemented by significant social progress, including a substantial reduction in poverty rates.

When the super-cycle ended GDP growth decreased dramatically, and from 2014 to 2019 the annual average was 0.3 per cent. Consequently, poverty rates increased, while inequality reduction—as measured by the Gini index—slowed.

In 2020 there was, due to the COVID-19 pandemic, negative growth of -6.8 per cent. According to the Economic Commission for Latin America and the Caribbean (ECLAC), the period 2014–2023 can be considered the second lost

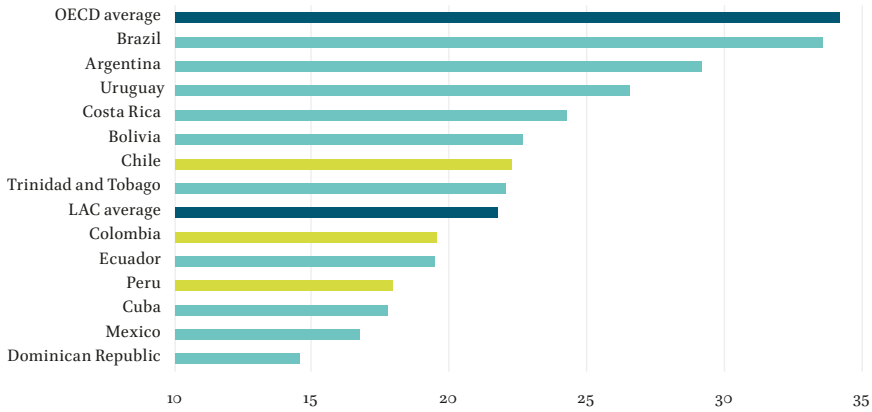


FIGURE 8.1 Tax-to-GDP ratios in Latin America and the Caribbean (LAC), 2021; total tax revenues as a percentage of GDP

SOURCE: OECD, *GLOBAL REVENUE STATISTICS DATABASE*, [HTTPS://WWW.OECD.ORG/TAX/TAX-POLICY/GLOBAL-REVENUE-STATISTICS-DATABASE.HTM](https://www.oecd.org/tax/tax-policy/global-revenue-statistics-database.htm) (ACCESSED ON 30 JANUARY 2024)

decade for the region (Salazar-Xirinachs, 2023): GDP growth was -0.8 per cent on average. The pandemic caused a major global recession due to the closure of economies. In Chile GDP fell by 6.8 per cent. In Colombia the figure was 7 per cent and in Peru, 10.5 per cent.

In this scenario, Chile, Colombia and Peru saw their respective economies shrink, while government spending grew significantly as a consequence of the increased demands on healthcare and of social programmes and transfers, all driving a serious fiscal deficit and forcing public debt to rise. Consequently, the need to increase fiscal revenues rose high on the agenda. Tax-to-GDP ratios in Colombia, Chile and Peru are very low in comparison to OECD standards (see Figure 8.1).

Furthermore, the entire region—including Chile (massive popular protests in 2019), Peru (six presidents since 2016), and Colombia (where matters were aggravated by drug trafficking and corruption)—experienced social and political unrest.¹

Consequently, at the beginning of the current decade radical alternatives emerged in response to the citizenship's demands for structural reforms, driving political platforms aimed at fostering fiscal justice and equality. In 2021

1 'In addition, since the end of 2019, citizens of several countries had expressed their discomfort, discontent and dissatisfaction with the political system and its actors in large protest demonstrations demanding greater social justice' (CEPAL, 2020, 14).

and 2022 there were general elections in Peru, Colombia and Chile. The newly elected governments proposed ambitious tax reforms, including measures to increase tax collection from extractive industries but also to raise taxation from high-income sectors, to finance environmental sustainability and healthcare.

This is the context in which the text of this chapter developed. In it, we analyse these tax reform proposals in Colombia, Chile and Peru, with an emphasis on natural resources, the obstacles encountered, and the results achieved.

In Section 1 we describe the measures included in recent tax reform proposals in each of the three countries studied and their impacts on their respective economies. Our main objective is to describe in detail the measures aimed at increasing revenue generated from the extractive industries in each country.

Section 2 discusses the 'government take', or tax burden, in the mining industries of Peru and Chile, which are mostly focusing on the IMF model referred to as the Fiscal Analysis of Resource Industries (FARI), which involves a comparative analysis of the tax burden in different countries in order to evaluate competitiveness. For Colombia, we discuss the effective corporate tax rate (*Tasa Efectiva de Tributación*) commonly used in the country, which lay at the heart of discussions between the government and business sector organisations.

Section 3 is focused on assessing the impact of tax reform. We evaluate the increase in the government take, and consider how it was defined and determined with regard to each country's competitiveness and attractiveness vis-à-vis investment in the extractive industries (EEII) sector. We also briefly discuss the issue of illicit financial flows and taxation issues related to the EEII sector in each country.

In Section 4, we evaluate the outcomes of the various tax reforms developed, focusing on the results with regard to the increase in tax collection and assessing opposition from business associations to this incremental tax burden. We also assess the allocation and use of the additional fiscal revenues generated by the tax reforms.

Section 5 develops the conclusions of this chapter. We underline the overall achievements of the various proposals, the difficulties encountered, the need for consensus building if tax reforms are to win approval in Congress, the link between tax reforms and international proposals, and the magnitude of the changes needed to increase tax collection in order to address pending social and environmental challenges.

1.1 *International Initiatives for Domestic Revenue Mobilisation*

The need to increase non-tax and tax revenues does not stem solely from the region's economic woes. A place in the international community requires that commitments regarding climate change made at the Conference of the Parties

(COP) 15 be fulfilled and that the Sustainable Development Goals (SDGs) be achieved. In particular, we have SDG Target 17.1: ‘Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection’ (United Nations, 2015).

Domestic revenue mobilisation (DRM) refers to the generation of government revenue from domestic tax or non-tax sources. Improving the DRM of developing countries is a crucial factor in sustainable development because it provides governments with the ability to fund key sectors, foster economic growth and reduce poverty. DRM can be pursued in a number of ways, including by increasing direct and indirect taxes, taking measures to combat evasion and elusion, and addressing trade mispricing for the purpose of tax evasion and avoidance, which are considered illicit financial flows.

In Latin America, most countries—including Colombia, Chile and Peru—have implemented laws to address transfer pricing, within the structures of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS). Likewise, most countries have adhered to other OECD initiatives, such as the exchange of information requirements provided by the Convention on Mutual Administrative Assistance in Tax Matters (MAAC), and the Multilateral Competent Authority Agreement (MCAA), a mechanism that facilitates the automatic exchange of information.

Although these transparency and international tax cooperation initiatives have delivered progress and a significant number of Latin American countries have joined them, they have not been sufficient to stop the diversion of profits, the erosion of tax bases, and international tax competition—problems that are exacerbated by the rapid expansion of the digital economy and the generation of greater opportunities for elusive practices.

This is why Colombian Finance Minister José Antonio Ocampo called for a Latin American regional tax plan that goes further, saying that the OECD’s plan is ‘too limited’ (*Latin American Advisor*, 2023). In July 2023, Treasury, Economy, and Finance ministers and high-level officials from 16 countries gathered in Colombia for the First Latin American Summit for an Inclusive, Sustainable and Equitable Global Tax Order, and signed the Cartagena Declaration, in which they pledge to support a new forum for dialogue and exchange (Plataforma Regional de Cooperación Tributaria para América Latina y el Caribe, 2023). The Declaration establishes a cooperative platform that facilitates an inclusive and transparent discourse on issues related to the following matters:

- the creation and reinforcement of coordination mechanisms to address the negotiation of global and multilateral tax measures, such

- as implementing OECD Pillars 1 and 2 and achieving more significant equity in the global tax system;
- the promotion of tax progressivity by levying on wealth and capital income to foster economic equality;
 - the fight against tax havens and illicit financial flows;
 - the promotion of fiscal policies that establish ecological taxes and using fossil fuels to mitigate carbon emissions.

In this chapter, we focus on the need to improve domestic capacity for tax and other revenue collection (SDG Target 17.1). We analyse tax reform projects in Colombia, Chile and Peru and their role as an important tool with which natural-resource-rich countries may promote tax progressivity by levying on wealth and capital income. This analysis complements the main issue of this thematic volume: illicit financial flows.

1.2 *The Importance of the Extractive Industries in Colombia, Chile and Peru*

In all three countries, the extractive industries (EEII) play a key role in the structure of the economy, fuelling growth, creating jobs and providing a significant share of fiscal revenues. The importance of EEII has grown further in the aftermath of the COVID-19 pandemic, among efforts to reignite economic growth and development.

Colombia has an abundance of two natural resources, oil and coal, and is the third largest oil producer in Latin America. The premier oil producing company in Colombia is Ecopetrol, the national oil company. Colombia is the leading producer of coal in Latin America, especially thermal coal, 88 per cent of which is destined for export. In 2022, oil and coal exports amounted to 55 per cent of total Colombian exports.

Chile is one of the region's leading economies, measured by total GDP, by per capita GDP, and by volume of exports in 2022. One of the pillars of Chile's economy is the exploitation of its natural resources, particularly copper, of which Chile is currently the world's largest producer and contributes around a quarter of total worldwide copper production, in addition to having the largest proven copper reserves. The Chilean state is directly involved in the exploitation of copper, through Codelco, which in 2022 contributed 29 per cent of national copper production.

In the last 20 years, economic growth continued in Chile, albeit at lesser rates and with levels of inequality maintained. The massive popular protests of 2019 and the subsequent political and social crisis called into question the effectiveness and sustainability of the model, evidencing its limitations and deficiencies and the need for reforms addressing economic and social inequality.

Peru is a medium-sized country with an abundance of natural resources in the form of various minerals. Peru is the world's second largest producer of copper and silver, the third largest of zinc, the fourth of lead and tin, and the eighth of gold. Peru also has the fourth largest gold reserve in the world. All mining production is carried out by private companies as there is no state mining company. Peru is also the fifth largest producer of natural gas in South America. Its oil production, meanwhile, is small and declining.

2 Overall Tax Reform Proposal

In this section we analyse the integral tax reforms proposed, respectively, by the governments of Chile, Colombia and Peru, including the tax reform measures proposed with regard to the extractive sector. An important issue in this analysis is the existence of tax stability contracts (see Box 1).

In order to enact their proposals, elected governments need parliamentary majorities. In the three countries in question, no winner of a presidential election subsequently managed to secure a parliamentary majority. Thus, to be able to pass laws in Congress the president of each country was obliged to forge alliances with other parties. In Chile and Colombia, alliances were made in Congress. In Peru meanwhile, no alliance was formed.

Tax stability contracts and the extractive industries

Frequently, a major issue impacting on the implementation of tax reforms in developing countries is the existence of tax stability contracts between the government and foreign companies. Stability contracts are specific commitments by the host state not to alter the terms of its tax legislation without the consent of the counterparty. These stability agreements can be contractual, legislative, or treaty-based. Treaty-based instruments signed by the states—including bilateral investment treaties (BITs) and free trade agreements (FTAs), among others—contain explicit clauses regarding tax stability contracts.

Chile, Colombia and Peru have signed BITs and FTAs with their most important investment and trading partners.

In Colombia, legislation on tax stability contracts is defined by Decree 1157 of 2020. It states that 'projects related to the evaluation, exploration and exploitation of non-renewable natural resources, such as the exploration, development and construction of mines and oil deposits, may not request qualification to the tax regime in the income tax for

mega investments'. There is therefore no tax stability in Colombia for EEII projects.

In Chile, tax stability was formally abolished by Law No. 20.780 of 2014 (Congreso de Chile, 2014). Which states that conditions have changed, and that Chile is now a stable and trustworthy partner for international investors, and a member of the OECD. Chile does not therefore require tax stability laws.

Such stability contracts will thus no longer be signed, although all contracts signed before January 1, 2016 will be respected until the agreed stabilisation expiry dates. For mining projects this term was extended until 2023 (Reporte Minero Energético, 2023).

In Peru, tax and legal stability is enshrined in the 1993 Constitution, which states that these '*contrato-ley*' (contract laws) cannot be modified by the government or Congress (Congreso del Perú, 1993). Contract law has a duration of 15 years and can only be modified by agreement between all parties, which provides a measure of constitutional shielding that does not exist in any other Latin American country.

Currently in Peru only two such contracts remain. As a result, 74 per cent of copper exports no longer enjoy tax stability. In the case of hydrocarbons and gas, tax and legal stability is granted for the term of the contract: 30 years for hydrocarbons and 40 for natural gas. New hydrocarbon and mining investment projects can continue to create new stability contracts.

2.1 *The Colombian Tax Reform Proposals*

The bill presented to Congress in August 2022 states that the tax reform project has two objectives. First, to reduce the inequitable exemptions enjoyed by higher-income individuals and some companies, as well as to close pathways to tax evasion and avoidance. Second, to ensure that sufficient resources are secured to finance the strengthening of the social protection system. This is achieved through adjustments to the tax system, which allow progress in terms of progressivity, equity, justice, simplicity and efficiency. The bill was approved by Congress in December 2022.

The expected revenue generation of the tax reform (see Table 8.1) for 2023 is 20.3 trillion Colombian pesos (COP) (USD 4.8 billion), or 1.39 per cent of GDP.

Taxes on the extractive industries are the most important source of collection. They include a surcharge on corporate income tax and constitute 60.4 per cent of the total projected tax generation power and 0.84 percent of GDP. We analyse these figure in detail below.

Taxes on non-extractive industries are the second most important source, and represent 17.2 per cent of the total and 0.24 per cent of GDP. The corporate income tax rate of 35 per cent is not modified for non-extractive industries. The proposed tax measures on non extractive industries included the reduction of tax exemptions and an increase of 10% in the dividend tax to foreign companies.

Taxes on natural persons and environmental and health taxes make lower contributions. In the case of environmental taxes, coal is included on the list of fossil fuels, and the consumption tax on gasoline and diesel is increased, among other measures.

2.1.1 Taxes on the Extractive Industries

There is a permanent surcharge on the corporate income tax (CIT) levied on companies in the hydrocarbons and mining sectors. Also, the reform eliminates the deduction of royalties for the calculation of the payment of CIT (Congreso de Colombia 2022, 12). These calculations do not relate to the IMF or other multilateral organisations. They were drawn up by the Colombian public sector and discussed in Congress.

TABLE 8.1 Colombia (2023), estimated collection power of the tax reform in COP billions and as a percentage of GDP

Category	Amount	% of total	% of GDP
1 Taxes on natural persons	2,249	11.1%	0.15%
Income tax	612	3.0%	0.04%
Wealth tax Patrimonio	1,637	8.1%	0.11%
2 Taxes on enterprises (2a+2b)	15,709	77.5%	1.08%
2a Extractive industries	12,233	60.4%	0.84%
CIT Surcharge	8,846	43.6%	0.61%
Non-deductible royalties	3,387	16.7%	0.23%
2b Non-Extractive Industries	3,476	17.2%	0.24%
3 Healthy and environmental taxes	88	0.4%	0.01%
4 Other	2,220	11.0%	0.15%
Total (1+2+3+4)	20,266	100%	1.39%

SOURCE: COMITÉ AUTÓNOMO DE LA REGLA FISCAL (2022)

TABLE 8.2 Oil: Application of the permanent CIT surcharge

Average price of Brent Oil	CIT rate	CIT surcharge	Total rate
Below 30% over the last 10 years	35%	0%	35%
Between 30 and 45% over the last 10 years	35%	5%	40%
Between 30 and 45% over the last 10 years	35%	10%	45%
Over 65% over the last 10 years	35%	15%	50%

SOURCE: CONGRESS OF COLOMBIA (2022)

2.1.2 The Permanent CIT Surcharge for Oil and Coal

The CIT surcharge depends on a calculation that incorporates the average price of a mineral/oil during the ten years prior to the year in which the calculation is made. The application for oil is shown in Table 8.2.

The application for coal is shown in Table 8.3.

2.1.3 Non-deductible Royalty for Oil and Coal

Colombia operates an ad valorem royalty that is calculated as a percentage of the value of oil and coal and is the most common approach used among all world governments. Its value can be determined based on the volume of the oil or the mineral present at the 'well head'.

The oil royalty varies, according to the quantity of oil produced, from 8 per cent to a maximum of 25 per cent. The royalty for minerals is fixed at a certain percentage, being 5 per cent for volumes of less than 3 million tons per year and 10 per cent for volumes that exceed 3 million tons per year.

Until the Tax Reform Act of 2022, oil and coal royalties could be deducted for income tax purposes. After the Act, contributions paid as a royalty for the exploitation of non-renewable resources (oil, gas and minerals, including coal) were not deductible for income tax purposes.

Note: In November 2023, the Constitutional Court of Colombia recognised the deductibility of royalties in the payment of income tax for extractive companies. This ruling has opened a considerable fiscal gap that will complicate budget execution—which already presents enormous difficulties—in the coming years.

In December 2023, the government requested the opening of a Fiscal Impact Incident on Sentence C-489-2023 (Ministerio de Hacienda y Crédito Público,

TABLE 8.3 Coal: Application of the permanent CIT surcharge

Average price of hard coal and lignite coal	CIT rate	CIT surcharge	Total rate
Below 65% over the last 10 years	35%	0%	35%
Between 65 and 75% over the last 10 years	35%	5%	40%
Over 75% over the last 10 years	35%	10%	45%

SOURCE: CONGRESO DE COLOMBIA (2022)

2023). The request states that the government is in a very difficult position because it will have to reimburse COP 3.4 trillion (USD 800 million) already collected in 2023. The government expected to collect COP 3.2 trillion (USDS 760 million in 2024).

The ruling of the High Court is expected in 2024.

2.1.4 Total Tax Reform Amounts Raised from the Extractive Industries in Colombia

The desegregated amount to be collected comes mostly from the CIT surcharge on oil companies (see Table 8.4), mostly Ecopetrol, which is responsible for 60 per cent of the oil produced in Colombia. In the case of non-deductible royalties, coal companies pay the most, because of high coal prices in 2022.

2.2 *The Chilean Tax Reform Proposals*

In July 2022, the Chilean government presented its reform proposal to Congress. It justified the reform by the relatively low level of the tax burden in Chile compared to international standards, especially withing the OECD (Ministerio de Hacienda Chile, 2022a). The tax reform project established as its central objectives to advance tax justice, avoid abuse, and seek growth with justice (Ministerio de Hacienda Chile, 2022b).

The government proposed four major lines of action in the tax field (see Table 8.5):

- (i) The restructuring of the income tax regime.
- (ii) The rationalisation of tax exemptions, thus reducing the scope for tax avoidance and evasion and promoting tax compliance.

TABLE 8.4 Colombia (2023), estimated collection from the extractive industries in COP billions and as a percentage of GDP

Category	Amount	% of total	% of GDP
1. CIT surcharge	8,846	72.3%	0.61%
Oil companies	6,790	55.5%	0.47%
Coal companies	2,056	16.8%	0.14%
2. Non-deductible royalties	3,387	27.7%	0.23%
Oil companies	1,454	11.9%	0.10%
Coal companies	1,934	15.8%	0.13%
Total extractive industries (1 + 2)	12,233	100%	0.84%

SOURCE: COMITÉ AUTÓNOMO DE LA REGLA FISCAL (2022)

- (iii) The introduction of environmental and health taxes.
- (iv) The establishment of a new mining royalty—in place of the Impuesto Especial a la Actividad Minera (IEAM, a special tax on mining activity)— in order to increase the state's share in the revenues from copper projects. This income will be mostly allocated to regional governments.

The IMF, in its article IV Report for Chile (IMF, 2023), indicates that the tax reform project was ambitious and comprehensive, and praises the proposed objectives of making the tax system more progressive and efficient. It also, however, recommends prudence regarding increases in spending, conditioned to the performance of tax collection and fiscal strengthening. Likewise, the Fund expresses doubts that the measures aimed at taxing wealth and improving the administration of the tax system would have a significant impact.

In March 2023, the government presented the bill to Congress for discussion and approval. However, the project did not obtain a majority of votes and was rejected.

2.2.1 The Mining Royalty—Chile

The search for an adequate level of tax collection from the mining sector has been a long-standing issue on the Chilean national agenda, at least since 2004 when the first tax or royalty, the IEAM, was introduced (Gamboni and

TABLE 8.5 Chile's tax collection reform act of 2022 (percentage of GDP)

	2023	2024	2025	2026
Corporate income tax	0.2	0.6	0.9	1.2
Natural persons wealth tax	0	0.4	0.5	0.5
Mining royalty	0	0.1	0.5	0.5
Reduction of exemptions	0	0.1	0.1	0.2
Evasion and elusion	0.4	0.8	1.2	1.6
Corrective taxes	0	0	0.1	0.3
Gross increase of collection	0.6	2	3.3	4.3
Decrease of revenue collection	-0.01	-0.04	-0.04	-0.2
Net increase of collection	0.6	1.9	3.2	4.1

SOURCE: MINISTERIO DE HACIENDA CHILE (2022A)

Molinare, 2022). The IEAM was modified in 2011 with the aim of raising the levels of taxes collected by the state.²

In 2018, a bill was presented to Congress with the aim of replacing the IEAM with a new mining royalty. In 2022, the Boric government incorporated this bill into its reform proposal. Although the overall tax reform proposal was not approved in March 2023, as explained above, the bill to replace the IEAM continued its way through Congress and was approved the following month.

The initial expectation was that the new royalty would collect an additional amount in taxes equivalent to 1 per cent of GDP. In fact, the royalty approved by Congress will lead to the collection of an estimated 0.45 per cent of the GDP (Ministerio de Hacienda Chile, 2023).

This new royalty would apply exclusively to large-scale mining, defined as that with a production of more than 50,000 metric tons of fine copper per year. The new royalty includes two components: (i) an ad valorem component, with a fixed 1 per cent rate, for large-scale copper mining, applicable to sales, and (ii) a component applied to mining operational taxable income (RIOMA, *Renta Imponible Operacional Minera Ajustada*) with variable rates according to the operating margin (Ministerio de Hacienda Chile, 2023). These rates can range from 8 to 26 per cent.

² Currently, the IEAM applies a progressive scale with tax rates between 5 per cent and 14 per cent.

The tax base would be the RIOMA, excluding the costs of depreciation and the amortisation of intangibles. Using historical parameters on copper prices, the government estimated that collection from the mining sector would gradually increase, reaching an additional net fiscal revenue close to 0.45 per cent of GDP, equivalent to USD 1.35 billion per year (see Table 8.6).

The proceeds from the new royalty would go to three funds for communities and regional development: (i) the Regional Fund for Productivity and Development, (ii) the Mining Communes Fund, and (iii) the Support Fund for Territorial Equity. The additional sums allocated to regions and communes via these funds would initially amount to some US 450 million.

2.2.2 The Lithium Situation

A pending issue in relation to the new mining royalty is whether it is applicable to lithium, the trade in which has developed significantly as reflected in the growth in its export volumes. Lithium's strategic importance worldwide represents an opportunity for growth and development for the Chilean economy.

For this reason, lithium has been declared of national interest, and consequently it is not concessible, resulting in its exploitation being carried out through contracts negotiated between the state and private companies.

These contracts establish specific royalties, unlike the rest of mining contracts (García Bernal, 2021). And the introduction of the new mining royalty raises questions regarding the lithium tax regime (*Diario Financiero*, 2023). At present, lithium producers do not—as it is not a concessible mineral—pay the IEAM. Concern has, however, been expressed regarding whether this exemption will continue when the new royalty comes into force, given the ambiguity of legal interpretations regarding whether lithium is or is not concessible, and also considering that royalties are already fixed by direct negotiation between the state and the companies (Jorrat, 2022).

2.3 *The Peruvian Tax Reform Proposals*

Unlike Chile and Colombia, the route adopted by the Peruvian government for its tax reform was to request a delegation of powers to allow it to legislate via decree. In October 2021, this request was formally presented to Congress (Government of Peru, 2021).

The request was based on the need to strengthen fiscal and tax policy and to generate resources to finance greater social investment, and focused on increasing collection rates, reducing distortions and deficiencies in the tax system, and strengthening equity in the distribution of tax burdens, among other objectives. Thus, the proposed measures included the revision of the income tax regime as applicable to high incomes from movable and immovable

TABLE 8.6 Chile—expected tax collection from the new mining royalty (percentage of GDP)

	2024	2025	2026	Expected permanent impact
Increase of collection—new royalty	0.08	0.27	0.27	0.30
Increase of collection—new production	0.15	0.22	0.22	0.22
Lower collection due to cost increase	-0.08	-0.07	-0.07	-0.07
Net increase in tax collection, private mining companies	0.15	0.42	0.42	0.45

SOURCE: MINISTERIO DE HACIENDA CHILE (2022A)

property, as well as of the case of high labour income. Rationalisation of the regimes for small and medium-sized enterprises was also considered, with the aim of simplifying the regimes and making compliance and control more transparent.

The most controversial measure of the entire package was the reform of the mining tax regime. The proposal was to increase the minimum floor of the mining royalty (which was then 1 per cent), increase the royalty rates and the Special Mining Tax for the highest profit brackets, and review the determination of the taxable base and the elimination of the royalty's deductibility from operating profits (as in Colombia).

The government stated that it would consult on the proposed reforms to the mining regime with multilateral organisations such as the IMF and the World Bank. In December 2021, Congress agreed to grant the government legislative powers (Congreso del Perú, 2021). However, this agreement covered only 20 per cent of the measures contained in the government's project. The remaining 80 per cent, meanwhile, included the tax reform proposal for the mining sector.

3 Impact of the Reforms: Government Take versus Revenue Competitiveness with Other Countries

There is an ongoing discussion about how higher taxes on extractive industries affect competitiveness. The two variables in this discussion are the tax burden, or government take, and the country's ability to avoid applying an excessive

burden that discourages investment (foreign or national) in comparison with other countries where the tax burden is lower.

Government take is defined as the part of the profits that goes to the government after the deduction of operating and administrative costs and royalties (if they exist). The company, meanwhile, takes the profit.

The public availability of the data used for calculating government take is very important because it supports transparency. There are several open data models for designing and evaluating oil and mining deals in resource-rich countries. This too is very important because the availability of open data on extractives and the presence of a growing community of users of such models is an important step towards improving public scrutiny and the understanding of resource deals and revenue flows (NRGI, 2015).

For Peru and Chile, we will discuss the tax burden in mining industries, mostly focusing on the IMF model referred to as the Fiscal Analysis of Resource Industries (FARI), which compares the tax burden in different countries in order to evaluate competitiveness. In Colombia, we will discuss the effective corporate tax rate (*Tasa Efectiva de Tributación*), which was at the centre of discussions between the government and business organisations and is commonly used in the country.

3.1 *Calculating the Government Take in Mining*

A crucial element in the tax reform discussion is the determination of the tax burden and an assessment of the impact that possible changes in the taxation regime might have on the attractiveness and competitiveness of mining projects. This assessment should be as accurate and as transparent as possible.

FARI was developed to check how the tax regime affects the profitability of a project, and allows comparisons between different types of tax instruments and between countries. FARI focuses on the average effective tax rate (AETR), the marginal effective tax rate (METR), and the progressivity of the tax regime (IMF, 2022). FARI evaluates the tax regime while assuming that other key factors—such as the size and quality of the deposits or the degree of development and stability of the economy—remain constant. FARI also assumes that the tax regime works efficiently, and without major leaks or losses.

In Chile, a variation of the FARI model has been developed by Michel Jorrat. His methodology is based on the effective tax rate, defined as the total in annual tax divided by financial profits before taxes (Jorrat, 2021). This methodology also considers how factors such as sociopolitical instability or foreign capital's uncertainty about the tax regime add to the perception of risk and are reflected in a project's discount rate (Jorrat, Peters and Lagos, 2021). Other factors are also included in the evaluation, such as the grade and depth of the

deposits, the cost and productivity of labour, and the cost of supplying water and energy.

The Jorrat method played a central role in the Chilean discussion of tax reform. The Ministry of Finance used an adjusted variation of the Jorrat method to calculate the tax burden on copper mining before and after the adoption of a new mining royalty, analysing how Chile's competitiveness would be affected vis-à-vis other leading mining countries (Ministerio de Hacienda Chile, 2023).

In Peru, meanwhile, the Ministry of Economy and Finance requested the IMF evaluate the tax reform proposals using the FARI model, also focusing on how to increase collection from the mining sector without losing competitiveness (IMF, 2022).

3.2 *The Government Take of Chile and the Jorrat Method*

In Chile, the government take (tax burden) comprises the CIT plus an additional tax on dividends plus the mining royalty. The bill presented to Congress in 2018 proposed the establishment of a new mining royalty to replace the old IEAM and increase the tax burden. It is important to note that this bill did not propose the modification of the CIT rate nor that of dividends.

Consequently, the level of the new royalty was the key element upon which an agreement had to be reached in Congress. The discussions between the government and business associations have led to a wide divergence in estimates of the expected tax burden. After lengthy negotiations, the government proposed a maximum tax burden of 48 per cent while the opposition requested that it should not exceed 44 per cent with the aim of ensuring continued competitive with other countries.

Finally, a consensus was reached. The tax burden for large-scale mining would be set at a maximum of 46.5 per cent and for medium-scale mining the figure would be 45.5 per cent (Ministerio de Hacienda Chile, 2023). These figures are enshrined in the new mining law.

3.3 *The Government Take of Peru and the FARI Model*

In Peru, the government had requested the delegation of legislative powers to enable a comprehensive tax reform that included as one of its axes the modification of the mining tax regime. The main proposals were increasing the minimum royalty floor, increasing marginal royalty rates, and reviewing the deductibility of royalties for the purposes of income tax payment (Government of Peru, 2021).

To this end, the Peruvian government requested the IMF estimate the impact of the aforementioned measures on both the tax burden and the

competitiveness of the sector (IMF, 2022). The resulting report estimated that Peru's government take was 43.1 per cent according to the FARI model.³ The IMF also concluded that there was moderate scope to increase tax collection in the sector without affecting competitiveness. The Peruvian Congress did not, however, grant the government legislative powers to make legal modifications to the mining regime.

3.4 *The Government Take of Colombia: The Effective Tax Rate*

Within the framework of its tax reform, the Colombian government introduced legal modifications to the calculation of the tax burden analysed above. Law 2277 of 2022 states that the royalty is not considered an operating cost and therefore that it is not deductible in the calculation of income tax payments.

For Colombia, the government take is defined as the effective tax rate (TET, *Tasa Efectiva de Tributación*). The TET is calculated based on the amounts actually paid by companies, with data obtained from the tax administration.

The Ministry of Finance calculates the TET for hydrocarbons assuming different tax rates of 0 per cent, 5 per cent, 10 per cent and 15 per cent. It is composed of the following elements:

- The CIT effective rate plus the CIT surcharge
- plus the non-deductibility of the royalty
- plus the increase from 10 to 20 per cent of the dividend tax

The TET obtained by the government is equivalent to 46.8 per cent when it applies the maximum CIT surcharge of 15 per cent. This rate represents a TET increase of 15.3 per cent compared to the previous legal regime. The government argues that this figure does not affect competitiveness because it is progressive (it will only be applied when prices are 65 per cent higher than the average of the last ten years).

Various business associations and research institutes, including Fedesarrollo (Fedesarrollo, 2022), object to such a calculation. Objections focus mainly on the fact that Law 2277 establishes the non-deductibility of the royalty, which substantially increases the government take. In addition, Fedesarrollo includes in its calculations certain costs that are not taken into consideration by the Ministry of Finance.

The TET calculated by Fedesarrollo is 70.5 per cent, considerably higher than the 46.8 per cent calculated by the Ministry. Thus, for Fedesarrollo this increase

3 The government take is the sum of the fiscal burden, the participation of workers in profits and the fees for the stability contract (IMF, 2022, 21).

in the TET would endanger the competitiveness of the Colombian oil sector. Similar opinions are held by the Colombian Petroleum Association (APC, 2022) and the Colombian Mining Association (Asociación Colombiana de Minería, 2022), whose TET calculation figures are close to those of Fedesarrollo.

For its part, the Ministry of Finance objects to these counter-calculations because, it says, they do not take into account the real costs incurred by the industry.

Illicit Financial Flows and Taxation Issues in EEII

Although it has not been the central theme of this paper, it is very important to mention that anti-tax-evasion measures were contemplated in the Colombian Tax Reform Act, in the Chilean tax reform project, and in the Peruvian proposal. The main objectives were to confront the different modalities of tax avoidance, considering that in these three countries non-compliance with regard to the collection of income tax and value added tax (VAT) is considerable (see Table 8.7).

TABLE 8.7 Estimated tax non-compliance levels as a percentage of potential revenue collection

Country (year)	Sales tax	Corporate income tax
Peru (2020)	38.1	49.5
Peru (2014)	28.7	44.1
Chile (2017)	20.0	31.0
Colombia (2015)	20.1	34.4

SOURCE: MINISTERIO DE ECONOMÍA Y FINANZAS, PERU (2021)

The Colombian law also introduced an OECD Pillar Two–inspired domestic minimum 15 per cent effective tax rate, aiming to compute financial profits and to top up tax due, similar to Pillar Two’s Model Rules at the domestic level. This 15 per cent tax limits de facto exempted income, itemised tax deductions, and other tax incentives (Fernandez, 2023).

The issue of illicit financial flows is part of the fight against tax avoidance, particularly in relation to EEII projects. Thus, the linkage between such flows and mining activities in the Andean region has been well documented. It has been estimated that between 2000 and 2014 the annual gross outflow of illicit financial flows related to mining exports from Andean countries (Bolivia, Colombia, Ecuador and Peru) grew sevenfold.

The accumulated total was USD 5.5 billion, equivalent to approximately 2 per cent of the total value of mining exports, mainly gold and copper (Hanni and Podesta, 2016).

The United States and Switzerland have been identified as the main destinations of illicit financial flows from illegal mining operations, mainly for the following reasons: aggressive tax planning including the use of transfer price mechanisms, outright fraudulent invoicing, and the laundering of illegal and smuggled mining production, particularly gold.

In Colombia, recent studies have enquired regarding the discrepancies between the volumes of gold officially produced and those effectively exported. The unexplained gap of approximately 20 per cent between the two figures is attributed to informal and illegal mining activities (CEDETRABAJO and GFI, 2019).

One of the vulnerable aspects of copper ore taxation, especially when it is exported as a concentrate, is its valuation. The issue of inspection of mining production is a key element to consider when evaluating opportunities to increase the sector's contribution. These challenges have been taken into consideration in the formulation of the mining tax burden calculation methodologies analysed in this chapter.

Thus, Jorrat (2021) indicates that the correct valuation of exported mining products is crucial, particularly considering the risks of under-invoicing of both prices and quantities. Thus, Jorrat recognises the importance of strengthening tax control in critical areas, such as the analysis of transfer prices and the verification, by laboratories, of exported mineral contents.

Recent studies provide mixed evidence regarding the possible problems of an under-invoicing of concentrate exports in Chile and Peru. It has been estimated that in little more than a decade the under-invoicing of copper exports from Chile has amounted to in excess of USD 6.8 billion, and in the case of Peru the figure is over USD 1.4 billion (Hanni and Podesta, 2019). A similar study analysing exports of copper concentrate in Peru finds signs of asymmetries in export prices that require further analysis (Rojas, 2020). Analysis of the exporting of zinc concentrates from Peru found slight indications of a possible undervaluation, although periods were identified where the levels of undervaluation require further investigation (Campodónico et al., 2021).

4 Assessing the Tax Reforms of 2021 and 2022

In Colombia, Chile and Peru, the proposed tax reforms addressed the question of how to increase revenue drawn from the extractive industries. This is reasonable considering the weight that these sectors—mining and hydrocarbons—have as generators of tax revenue, particularly during booms in international prices.

It would, however, be wrong to say that the tax reform processes in these three countries were limited to proposing changes to the tax regimes governing the extractive industries. On the contrary, in each country, within the framework of the reform, a range of diverse proposals were deployed to substantially transform the tax system and address certain of its structural elements (see Table 8.8).

In Chile, the tax reform proposal included not only the establishment of a new mining royalty, but also measures to restructure income tax for high incomes, create a specific tax on large fortunes, and rationalise tax exemptions and combat evasion and avoidance, as well as measures for the introduction of environmental taxes (Ministerio de Hacienda Chile, 2022b). In this sense, it should be noted that the greatest expectation with regard to tax collection did not fall on the new mining royalty, which would generate 0.45 per cent of GDP, but rather on other measures, which together would lead to the collection of the equivalent of 3.6 per cent of GDP—that is, seven times more than would the new mining royalty.

In Colombia, the measures to increase tax collection from the extractive industries, and particularly the oil sector, do have considerable weight. Thus, measures such as a surtax on the industries' income or the non-deductibility of royalties would generate estimated additional revenues amounting to 0.84 per cent of GDP, compared to the 0.55 per cent generated by the rest of the proposed measures, including modifications to the income tax regime for natural persons and the introduction of a wealth tax and environmental taxes (Ministerio de Hacienda y Crédito Público, 2022a).

Most of the money will come from Ecopetrol, the country's main oil producer. The tax reform proposal is part of the Petro government's energy transition policy, which seeks to reduce dependence on fossil fuels.

It is, however, difficult to estimate the increase in tax collected compared to previous years, since this depends on the volumes produced and the international prices of oil, coal and copper. Preliminary estimates put the figure at 52 per cent for oil and 90 per cent for coal. In Chile, meanwhile, the figure is 17 per cent if we include the mining royalty.

TABLE 8.8 Tax act proposals: Changes in the tax regime

	Colombia	Chile	Peru ^a
Corporate income tax (CIT)	No	No	No
CIT surcharge	Yes	No	No
Royalty	No	Yes	Yes
Non-deductible royalty	Yes	No	Yes
Tax on dividends	Yes	No	No

a The proposed mining tax reform was not approved by Congress.

SOURCES: GOVERNMENT OF PERU (2021); CONGRESO DE COLOMBIA (2022); CONGRESO DE CHILE (2023).

In Peru, the aim was to generate additional revenues equivalent to 1.5 per cent of GDP. And as we have seen, one of the axes of the proposals was reform of the tax system for mining, but they also included an extensive package of measures on capital income, high incomes, and the regime for small and micro businesses, as well as on the fight against tax evasion and avoidance.

In Colombia, Chile and Peru, critical arguments against the reform were led by mining and oil associations. In Colombia, the Asociación Colombiana de Minería (ACP) (Asociación Colombiana de Minería, 2022) expressed strong criticism of the changes that would be introduced by the reform, focusing on (i) the non-deductibility of royalties paid for tax credit purposes, and (ii) the CIT surcharge levelled on coal. ACP states that the new tax regime might render current coal projects unsustainable and that new projects would be economically unfeasible. ACP has also lent its support to a Constitutional Court review of several lawsuits brought against the reform.

As mentioned before, the discussion in Colombia regarding taxation and the extractive industries is still far from solved, especially because Gustavo Petro's government has made energy transition a major goal, aiming to gradually replace fossil fuels with alternative energy sources, even although oil is a key source of fiscal resources for Colombia.

In Chile, the Consejo Minero (Mining Council) and the Sociedad Nacional Minera (SONAMI, the national mining company) were the main opponents of the effort to establish the new mining royalty, voicing their concerns regarding the impact an increased tax burden would have on Chile's competitiveness as a preferred destination for investments in new mining projects (Consejo Minero,

2022). The Consejo Minero went as far as commissioning studies comparing how the mining sector's tax burden would, given the new royalty, compare to that of other countries where mining is prevalent (Ernst and Young, 2020).

Chilean mining business associations, meanwhile, recognised the benefit of a new legal framework with clear rules, and requested that the government ensure that this new framework is tax invariant. Consequently, a balance would have been achieved between greater revenue and the preservation of competitiveness—a critical issue given that production costs have been gradually increasing and many current mining operations are already at a mature stage, with ore grades diminishing (Wood Mackenzie, 2021).

The scenario was different in Peru, where the mining sector was united in its total opposition to any change to the current regime, rejecting dialogue and negotiation. The Sociedad Nacional de Minería, Petróleo y Energía (SNMPE, a national mining, oil and energy NGO) attacked the government's tax reform proposal head on, claiming that changes to the mining regime would affect competitiveness and lead to the cancellation of mining projects with overall estimated investments of more than USD 50 billion (*Rumbo Minero*, 2021).

In each country the tax reform proposal considered not only income generation but also where these new revenues would go. Indeed, support for the reforms has not only been based on their capacity to generate greater collection with transparency and progressivity, but also on the equitable and legitimate distribution and use of said monies.

In Chile the proposal was made as part of a Fiscal Pact for development and social justice aimed at allocating the bulk of the resources thus generated to financing social rights such as improved pensions, access to healthcare, investment in education and the construction of social housing (Presidencia de Chile, 2022). Likewise, an agenda for fiscal decentralisation was proposed, involving the creation of various investment funds in favour of subnational governments.

In Colombia the tax reform was part of a comprehensive drive for equality and social justice, and the largest part of the resources generated would be applied mainly to the so-called historical social debt. In this way, the tax reform would reduce exclusion and inequality through various channels, including the financing of poverty reduction programmes and the redistribution of tax burdens, thus reducing income and wealth gaps.

In Peru the proposal included an explicit commitment that the majority of resources generated would be used with transparency and legitimacy and exclusively to finance the closing of social gaps. There would be greater investment in education, healthcare, access to drinking water, connectivity and

agricultural development. The proposal also established the government's obligation to periodically inform Congress and the people with regard to the use of said resources and what had been achieved with regard to the closing of these social gaps.

5 Conclusions

In the few years that have followed the crisis of the pandemic, several Latin American countries have faced a difficult economic, social and political context that has fuelled demands for greater spending with the aim of supporting economic and social recovery. Furthermore, the recent boom in international commodity prices—which has been particularly strong in the mining sector—has encouraged efforts to expand government participation in the extraordinary incomes generated by the exploitation of natural resources, the goal being to return to macroeconomic equilibrium.

Consequently, the need to increase fiscal revenues was high on the agenda in the presidential elections of 2021 and 2022 in Colombia, Chile and Peru. This coincided with, and was legitimised by, the United Nations Sustainable Development Goals, unveiled in 2015.

In overall terms, tax reform projects proposed in Colombia, Chile and Peru were expected to generate 1.39, 3.2 and 1.55 per cent of GDP, respectively. These reforms encompassed taxes on the corporate sector and natural persons and healthcare and environmental taxes. Most importantly, new taxes on EETI took a leading role. The revenues involved were significant given the scale of the social and economic crisis. But while they would constitute a step forward in efforts to ameliorate each country's tax-to-GDP ratio, much still needs to be done to approach parity with OECD member states.

In Colombia the tax reform proposal was approved in its entirety. In Chile only the mining royalty (0.5 per cent of GDP) was approved. In Peru, the most important proposals were not approved by Congress, including tax reform in the extractive industries.

The tax regime for EETI, mining, and hydrocarbons was at the heart of reform efforts in each country. In this regard, these efforts were successful in the cases of Chile, with the establishment of the new mining royalty, and Colombia, with the establishment of a CIT surcharge and non-deductible royalties for the extractive industries. In the case of Peru, however, Congress withheld the legislative powers that the government had requested in order to modify the tax regime for the mining sector.

These tax reform efforts were also aligned with the positions advanced on fiscal matters by key multilaterals organisations such as the OECD, IMF and the Interamerican Development Bank (IDB). In particular, the OECD has proactively promoted increased progressiveness in tax systems, and has made specific recommendations for Chile and Colombia, which are OECD member states.

Certainly, a critical issue in the proposed reform of the tax regime for EEII was the determination of the effective tax burden, with comparative analyses across countries being regarded as crucial if competitiveness were to be maintained. This is a controversial issue and is subject to interpretation, and multiple methodologies can be applied to estimate said tax burden.

In Chile, the final stage of discussions between the government and the mining companies regarding the new royalty focused on how the increase in the tax burden would affect the competitiveness and sustainability of the Chilean mining sector. Both sides, regardless of their differences, vowed to ensure Chile would continue to be an attractive destination for mining investments.

In Colombia's tax reform the scenario was quite different. The government's stated goal regarding EEII was growing the government take of the revenues generated by the oil and coal sectors, and issues of competitiveness and sustainability played only a secondary role. This reflects how the overall national development strategy undertaken by the Petro government includes, as a key component, the transformation of the energy matrix and a diminishing role for the oil and coal sectors.

With regard to the IMF, national reports for these three countries have highlighted the need for improved fiscal sustainability and efficiency. In Peru, in response to an official request, the Fund evaluated several key proposals for tax reform, including the proposed changes to the tax regime for the mining sector, formulating recommendations on how to increase revenues without affecting competitiveness.

The impact of these tax reform initiatives in terms of increased collection from EEII is, although significant, not exceptional. In Colombia, the sums that would be generated, considering tax and non-tax revenues (royalties), have been estimated to be 0.57 per cent of GDP for oil plus 0.34 per cent of GDP for coal. In Chile, the estimated figure is 0.50 per cent of GDP from revenues collected from the mining sector.

These three countries are still a long way from equitable levels of tax collection and relevant international benchmarks, including OECD standards, and the expected result of tax reforms would be only a marginal increase in existing tax collection levels.

Evidence indicates that tax reform projects need a favourable correlation of forces, which implies a process of negotiation and consensus building in the political and social sectors with the aim of guaranteeing the feasibility and legitimacy of the reform. In two of the countries analysed in this chapter, Chile and Colombia, it was possible to build such a political consensus. This was not the case for Peru.

Consensus building could, however, also translate into the moderation of proposed changes to the current tax system. And in the three tax reform processes studied here there was clearly a need for ongoing fine-tuning and adjustment of the initial, often excessively optimistic proposals, correcting collection estimates based on more realistic and viable criteria.

In each country, opposition to tax reform was led by business associations linked to the mining and oil sectors. These associations based their arguments against reform mainly on the perceived loss of competitiveness and sustainability caused by an increased tax burden. In Colombia and Chile, reform of the EEII tax regime went ahead successfully regardless of this opposition. While in Peru the drive to reform the mining tax regime was stopped in its tracks.

Tax stability is, generally, another consideration in tax reform initiatives given its potential to become a major obstacle to the implementation of such reform measures, particularly in the case of the extractive industries. It must be noted, however, that in the countries analysed tax stability played a comparatively minor role, if any role at all, in discussion of the reforms. In Colombia, this was because tax stability does not apply to the country's EEII, and in Chile because the tax stability route is no longer available. Further, in Chile and Peru many tax stability contracts have already run their course and, currently, most mining production is not protected by tax stability agreements.

Although the increase in tax collected as a result of these reform initiatives is relatively small in quantitative terms, the reforms' importance and legitimacy are enhanced by the fact that the additional resources thus generated would be funnelled to critical areas such as social expenditure and productive investment, particularly at the regional and local levels.

In each of the three countries the tax reform initiative was linked to global initiatives to combat international tax fraud, such as the OECD/G20 BEPS framework, the aim being to reinforce each government's monitoring capacity, particularly in the field of EEII, with a focus on abusive transfer pricing, the undervaluation of mineral exports, and illicit financial flows affecting the extractive industries. As a consequence of the process analysed in this chapter, an important initiative regarding domestic resource mobilisation and transparency was launched in July 2023 in Cartagena: the collaborative platform

the First Latin American Summit for an Inclusive, Sustainable and Equitable Global Tax Order.

We consider this chapter a contribution to the discussion of how to increase and make transparent tax collection from the extractive industries—a critical issue for countries rich in natural resources.

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Potential Illicit Financial Flow Risks in Ghana's Gold-for-Oil Transaction

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Abstract

This chapter presents multidisciplinary perspectives on a unique barter trade arrangement—the Gold-for-Oil (G4O) policy initiated by the government of Ghana in November 2022. First, it uses econometric analysis to examine the economic motivation for the policy, that oil importation is the major driver of the depreciation of the domestic currency against the US dollar. Second, it provides a political economy overview of the policy, highlighting the governance issues surrounding the policy's formulation and implementation processes. Third, it examines existing legal and regulatory frameworks, asking if due process was followed in these processes. The econometric analysis shows that although there is a positive and statistically significant long-run relationship between Ghana's domestic currency depreciation and oil imports, the effect size is not large (the long-run oil import elasticity of the exchange rate is about 0.20), suggesting that even under the best case scenario of policy implementation within the right legal regime, the G4O initiative will not be a panacea for the perennial exchange rate volatility problem. The political economy and legal analyses highlight issues of insufficient consultations, disregard for legal foundations that might facilitate illicit financial flows (IFFs) through smuggling and illegal gold trade, the lack of transparency in the implementation of the policy and the pricing mechanisms that could increase the risk of IFFs through mispricing, and insufficient operational clarity. To enhance the policy's effectiveness, it would be necessary to establish a comprehensive legal framework, foster stakeholder engagement, ensure transparency, and coordinate efforts among all parties. There should also be a general focus on reducing unnecessary importations and boosting exports. All these could reduce the risk of IFFs and ensure that Ghana's natural resources are optimally utilised for the benefit of the population.

1 Introduction

The Ghana cedi (GHS)—the country's official currency—depreciated by approximately 118 per cent against its major trading currency, the United States dollar (USD), between January and November 2022. This resulted in high levels of imported inflation and led to a general deterioration of living standards in the country. According to the Vice President of the Republic of Ghana, who is also the head of the government's Economic Management Team, the underlying reason for this unprecedented depreciation was 'demand for foreign exchange by oil importers in the face of dwindling foreign exchange reserves'. It must be noted that despite Ghana's status as a net exporter of crude oil, the bulk of its refined petroleum products are imported, with around USD 2.92 billion spent on such imports in 2022 (Bank of Ghana, 2023). Of course, it could be argued that the post-COVID petroleum price recovery following the price slump during the first year of the global pandemic played a role in the rising demand for US dollars for imports and thus could also have had an impact on the domestic currency.

To counter this situation, a major policy initiative called the Gold-for-Oil (G4O) policy was launched by the Vice President of Ghana in November 2022. This strategy involves using gold, instead of dollars, for procuring refined petroleum products. The Vice President extolled this barter trade approach as 'the most important economic policy change in Ghana since independence'. The G4O initiative is projected to alter Ghana's balance of payments significantly and to reduce demand for, and potentially the value of, the US dollar.

Following the announcement of the G4O initiative by the Vice President and its subsequent implementation, concerns have been raised by some civil society organisations, lawyers and academics about whether or not there is a strong enough economic basis for the policy, and whether due process was followed. So far, the debate appears convoluted and unstructured, with political leanings and affiliations sometimes driving opinions. This chapter therefore provides a systematic analysis of the economic foundations of the policy, and the broader legal and political economy implications of the initiative. Specifically, it explores the potential illicit financial flow (IFF) risks posed by the G4O policy.

Our multidisciplinary approach is motivated by the following. The motivation for the G4O policy was economic. Yet most of the discussions that followed the announcement of the initiative were centred largely on law and politics. It is thus important to first examine the short- and the long-term economic rationale of the policy initiative. This helps answer the question: Is there a strong enough economic basis for the G4O policy? Beyond analysis of

the economic motivation for the policy, the rest of the debates following the policy announcement focused on legal and political economy justifications, with a major strand being made up by the potential implications for IFFs in general and trade-related IFFs in particular. By IFFs, we mean ‘Financial flows generated by methods, practices and crimes aiming to transfer financial capital abroad in contravention of national or international laws’ (OECD, 2014) and ‘cross-border transfers of money or assets connected with some illegal activity’ (Musselli and Bürgi Bonanomi, 2020, 14). In the latter definition, ‘illegal’ includes illicit activities that create negative effects in the jurisdictions in which they occur even if not illegal. To do justice to the debates in a structured manner therefore requires a multidisciplinary approach that embeds economic, legal and political economy analyses, and this is what this chapter contributes to the literature on the legal and political economy aspects of policymaking and implementation.

The rest of the chapter proceeds as follows: The next section provides an operational definition of IFFs and describes the broad context of the G4O policy. Section 3 provides a brief evaluation of the economic rationale for the policy using econometric analysis. Section 4 then delves into political economy and legal analyses of the potential IFF risks posed by the policy. The final section concludes and presents implications for policy and practice.

2 Context of the G4O Policy

The Vice President of Ghana made a significant announcement via his social media handles regarding the government’s exploration of a novel policy paradigm: exchanging gold for oil instead of using foreign currency for payments. According to the ‘Gold for Oil Programme Framework’ document (Government of Ghana, 2023), which outlines the terms of the G4O deal, the policy operates within the existing Domestic Gold Purchase Programme (DGPP) of the Bank of Ghana (BoG), a programme that aims to support petroleum imports for the country. This latter programme, initiated in June 2021, seeks to bolster the BoG’s foreign exchange reserves by increasing its gold holdings in the foreign reserve portfolio.

The Precious Minerals Marketing Company (PMMC)—the government of Ghana’s assayer—facilitates the purchase of gold through the BoG’s Domestic Purchase Programme, through both licensed small-scale and large-scale miners (Bank of Ghana, 2021). The BoG plays a pivotal role by exchanging an equivalent volume of gold for petroleum products from designated suppliers. Additionally, the BoG has the option to sell gold through established

gold brokers. These brokers are responsible for providing forex cover to facilitate payments for petroleum products. The Bulk Oil Storage and Transport Company (BOST), a state entity, acts as an off-taker for petroleum products. BOST implements agreements with international oil trading companies (IOTCs) for the importation of petroleum products into Ghana. Subsequently, these products are sold to licensed bulk distribution companies. The National Petroleum Authority (NPA) plays a crucial role in determining the prices conveyed to the final consumer, promoting transparency and fair practices in the petroleum product market.

The DGPP, a BoG initiative aimed at strengthening foreign exchange management operations, started in June 2021 (Bank of Ghana, 2021). The programme aimed to optimise the nation's foreign reserves. According to the BoG, the G4O programme helped to increase gold reserves from 8.77 tonnes in June 2021 to 16.47 tonnes by July 2023, an increase of approximately 88 per cent.

It must be noted that non-monetised resource exchange is not novel within the realm of global political economy. Taskinsoy (2019) characterised bartering as a form of trade that operates without the use of currency. Adam Smith, in his 1776 seminal work *The Wealth of Nations*, regarded bartering as a primitive activity (Smith, 1776). The origins of this practice can be traced back to colonial times, with instances including post-socialist Russia's petro barter approach (Greskovits, 2003). The objective of the petro barter approach was to catalyse new political paradigms by emphasising local sovereignty and challenging the established norms of the international petrodollar system. It even sought to question the configurations of state and private entities within the oil sector prevalent during the Cold War era (Greskovits, 2003; Le Billon, 2001; Prokhorova, 2014).

Barter trade saw its appeal renewed in many nations in the wake of the 2008 global financial crisis, which had left countries grappling with high levels of indebtedness coupled with dwindling foreign reserves (Taskinsoy, 2019). In recent times, a significant form of barter trade has involved the exchange of gold for oil (Shafiee and Topal, 2010; Yomi et al., 2023). Governments across the globe have actively participated in gold-purchasing programmes, driven by diverse motives such as bolstering economic stability, diversifying reserves, and safeguarding against currency fluctuations (Arslanalp, Eichengreen and Simpson-Bell, 2023; RCS Global, 2016; Zhao et al., 2015)

The artisanal and small-scale gold mining (ASGM) industry is important for the success of the G4O policy. In 2021, the BoG reported that 20 per cent of gold reserves come from approved ASGM aggregators. The share of artisanal gold in the entire value chain is, however, hard to verify. Despite efforts by the state to formalise the ASGM sector, the challenges of informal trading networks

persist, and this has implications for the DGPP and therefore for the G4O initiative since this could perpetuate IFFs. For instance, the identity of aggregators and how the new arrangement aligns with existing policies remain unclear. A comprehensive study conducted by the World Gold Council in 2016 delved into the strategies for and the challenges and key insights of crafting policies to regulate the ASGM industry, drawing from experiences in the Philippines, Mongolia, Ecuador and Ethiopia. It scrutinised how various central banks harnessed gold-purchasing programmes to bolster their reserves, uplift local communities, and establish a structured, sustainable ASGM sector (World Gold Council, 2021).

A range of advantages are associated with central banks' gold-purchasing initiatives, including the ability to procure gold using local currency, thus conserving foreign currency. Additionally, these programmes have played a pivotal role in facilitating the formalisation of small-scale mining operations, reducing reliance on harmful substances like mercury, fostering the adoption of pertinent standards by stakeholders, and supporting ASGM's integration into the international market (World Gold Council, 2021). For instance, the Central Bank of Mongolia championed the implementation of the Fairmined Standard in alignment with Organisation for Economic Co-operation and Development (OECD) Responsible Sourcing Standards. Ecuador, meanwhile, adopted a stringent approach, exclusively purchasing gold from licensed miners who held legitimate bank accounts and ensuring a fair price.

Given that the introduction of Ghana's G4O policy was motivated by an economic problem—the unprecedented depreciation of the domestic currency attributed to increased forex demand for petroleum product imports—the next section seeks to answer the question of whether the empirical data provides strong justification for the policy.

3 The Economics of the G4O Transaction

The G4O policy is expected to address the surging demand for the US dollar from petroleum importers, a factor that raises its price and consequently general consumer prices. The policy thus targets the stabilisation of two pivotal macroeconomic indicators: currency depreciation and inflation. Having a domestic currency (the Ghana cedi) that is strong relative to the US dollar (the foremost international trading currency) is expected to yield benefits such as reducing the domestic price of fuel, and consequently lower domestic market prices, diminish inflation and improve the national trade balance.

However, the expected gains need to be juxtaposed with potential long-term effects such as decreased revenues from exports including crude oil and increased costs of imported inputs with a consequent rise in production costs. Although gold prices exhibit comparatively less volatility than oil prices and exchange rates, their interplay is influenced by multifaceted factors such as seasonality, geopolitics, speculation, hedging, and global supply and demand dynamics. This complexity makes it challenging to accurately gauge the impacts of gold and oil markets on a country's domestic economic activities, encompassing exchange rate determination, inflation, and overall economic stability.

This section addresses the following question: Does the relationship between oil imports and exchange rates support the motives of the G4O policy? In an empirical econometric analysis we examine the interplay between fuel imports, the exchange rate, and other macroeconomic indicators. By doing so, we seek to illuminate the potential viability of the policy.

3.1 *Examining the Relationships between Exchange Rates and Oil Imports*

The G4O policy assumes that the GHS/USD exchange rate (E) is driven chiefly by an increasing demand for foreign exchange from oil importers in the presence of declining foreign exchange reserves. We examine this supposition by specifying the following general model:

$$E_t = \alpha + \delta(O)_t + \beta X_t + \varepsilon_t \quad (1)$$

where O_t is oil imports and X_t is the vector containing other macrocosmic correlates of the exchange rate (general price levels, interest rate, money stock, trade balance and real per capita output).

Empirically, we first check the integration order of all the variables of interest using an augmented Dickey–Fuller test. All our series are either $I(0)$ or $I(1)$.¹ The autoregressive distributed lag (ARDL) model is ideal for our data because the series are of varying orders of integration. We employ the bound testing procedure to examine the presence or otherwise of a long-run equilibrium relationships (cointegration) between E , O_d and the other covariates. In the

1 The null hypothesis is that a series is non-stationary. Depending on the nature of the series, the test is applied including a trend term, a drift, or the variable's lagged value of the difference.

presence of a long-run relationship, the ARDL model is applied to examine the empirical relationships of interest. The general form of the model is:

$$E_t = \alpha_0 + \alpha_1 t + \sum_{i=1}^p \phi_i E_{t-i} + \sum_{i=1}^q \beta_i X_{t-i} + \gamma' Z_t + \varepsilon_t, \quad (2)$$

where α_0 and α_1 are the intercept and linear trend, and p and q are the lag orders for the dependent variable (E_t) and endogenous covariates (X_t), respectively; Z_t represents exogenous variables. In our case, Z_t represents two period dummies: the period of commercial oil production (2011–2022) and the period of the implementation of the BoG inflation targeting policy (2007–2022). We choose optimal lag orders (p and q) based on the Akaike information criterion. We implement tests to ensure that all models satisfy the relevant distributional assumptions.²

3.2 Results of the Empirical Econometric Analysis

Data for the analysis is obtained from two main sources: the World Development Indicators database compiled by the World Bank (World Bank, 2022) and the International Financial Statistics published by the International Monetary Fund (IMF). The data for the study spans the period 1980 to 2022. Table 9.1 presents summary statistics of key variables. Figure 9.1 displays the associated time-series graphs. Some of the variables appear stationary at a glance while others are not.

Some of the series exhibit extremely high volatility over the period as shown by the coefficient of variation (CV), thus making analysis of year-to-year variation worthwhile. The official exchange rate, for instance, is highly asymmetrical with a CV value of 152 per cent, indicating a weakening Ghana cedi against the US dollar. Per capital gross domestic product (GDP) growth shows the highest volatility rate, with a CV of 209 per cent. Inflation is also quite volatile, with a CV of about 92 per cent. The import–export ratio exhibits the lowest variability, with a CV of about 18 per cent. This suggests that the structure of external trade has remained relatively stagnant. On average, over the period the value of imports exceeds that of exports, with a foreign trade deficit of about 33 per cent.

2 In particular, we test for serial correlation, heteroscedasticity, and non-normality. Where initial tests show the presence of serial correlation, we adjust the lag orders to ensure model assumptions are satisfied.

TABLE 9.1 Summary statistics for variables

Variables	Mean	SD	Min	Max	CV (%)
GHS/USD exchange rate	1,665	2,531	0	11,787	152,013
Fuel imports (Bil USD)	0,495	0,336	0,065	1,559	67,829
Import-export ratio	1,332	0,243	0,859	1,798	18,222
Treasury bill rate (%)	21,037	8,921	9,66	42,77	42,405
Inflation rate (%)	26,512	24,368	4,865	122,875	91,915
Per capita GDP growth (%)	1,764	3,695	-9,675	11,3	209,495

SOURCE: THE AUTHORS

TABLE 9.2 Correlations between variables

Variables	Correlation coefficient
GHS/USD exchange rate (log) & Import-export ratio	0,105
GHS/USD exchange rate (log) & Fuel import (log)	0,391
GHS/USD exchange rate (log) & Interest rate (log)	0,109
GHS/USD exchange rate (log) & Consumer price (log)	0,988
GHS/USD exchange rate (log) & Per capita GDP growth	0,589
Import-export ratio & Fuel import (log)	0,224
Import-export ratio & Interest rate (log)	0,29
Import-export ratio & Consumer price (log)	0,051
Import-export ratio & Per capita GDP growth	0,411
Fuel import (log) & Interest rate (log)	0,045
Fuel import (log) & Consumer price (log)	0,388
Fuel import (log) & Per capita GDP growth	0,274
Interest rate (log) & Consumer price (log)	0,015
Interest rate (log) & Per capita GDP growth	0,031
Consumer price (log) & Per capita GDP growth	0,553

SOURCE: THE AUTHORS

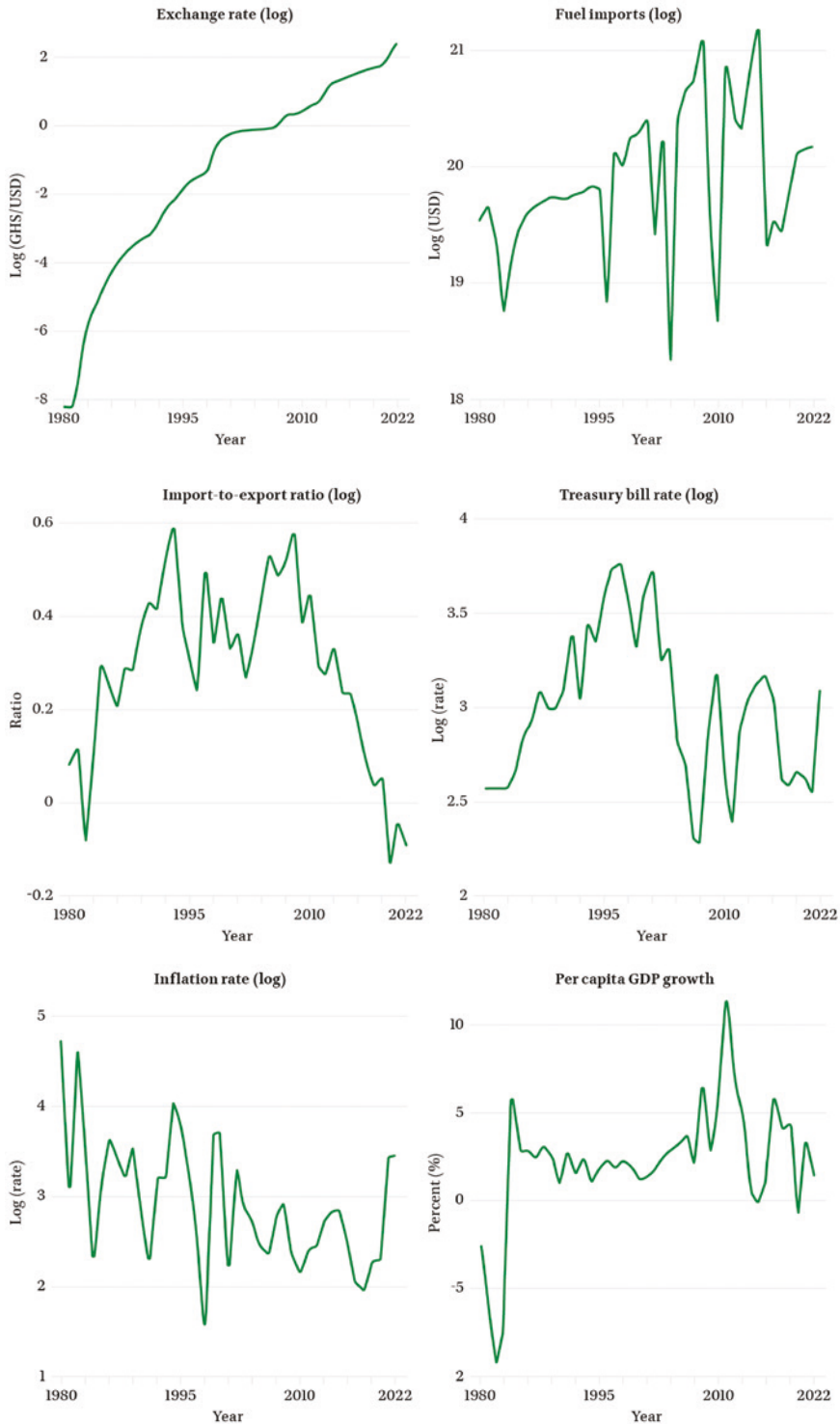


FIGURE 9.1 Time-series graphs for the key variables
SOURCE: THE AUTHORS

Table 9.2 shows pairwise correlation between the variables. All the correlations are positive (after log transforming some of the variables). The correlation between the GHS/USD exchange rate and the import–export ratio is not as large as one might expect. While the correlation between fuel imports and the exchange rate is much larger, it is still not as high as speculated. It must be noted that these indicate only associations and tell us nothing about causality. The largest correlation coefficient is between the exchange rate and consumer prices (0.988), indicating significant exchange rate pass-through. This means that a high proportion of inflation might be imported. Next we present the regression results, which could help unravel more robust associations and causal relationships among the variables of interest.

The regression results are presented in the appendix (Tables 9A1 and 9A2). Table 9.A-1 shows long-run results of six stepwise ARDL regressions.³ The table displays the bounds test results for determining the presence of a long-run relationship. Model 1 admits only the import–export ratio variable. The bounds test F - and t -statistics suggest we cannot reject the null hypothesis of no long-run relationship at the 0.05 and 0.01 levels. Although the estimated long-run import–export ratio elasticity of the exchange rate is economically important (1.48), it is imprecisely estimated—95% CI $[-0.203, 3.167]$. This further casts doubt on the presence of a long-run relationship.

The covariate in Model 2, fuel imports, is at the core of the G4O policy. Here, there is overwhelming support for a long-run relationship with the exchange rate. The estimated long-run oil imports elasticity of the exchange rate is about 0.63—95% CI $[0.179, 1.091]$. Without accounting for other covariates as we do in Models 3–6, this result supports a long-run justification for the policy. What happens when we include other covariates? First, after accounting for the import–export ratio (Model 3), the F - and t -statistics from the bounds test support a long-run relationship at the 0.05 level but are inconclusive at the 0.01 level. The long-run coefficient of oil imports remains precisely estimated while the coefficient on the overall import–export ratio remains noisy. The oil import elasticity reduces to 0.48, 95% CI $[0.119, 0.851]$.

When we include the other candidate variables except the import–export ratio (Model 4), the bounds test strongly supports a long-run relationship and the oil import elasticity reduces slightly to 0.43 and remains statistically significant (p -value = 0). The coefficients of the other covariates also have the expected signs and are quite precisely estimated. Next, we re-estimated

3 The purpose of this stepwise approach is not for variable selection but to see how the model behaves as subsequent variables are added.

Model 4 replacing the oil imports variable with the overall import–export ratio (Model 5), assuming that including both in the same model might mask their individual effects. In this model, there is no ambiguity about the presence of a long-run relationship and the long-run coefficients are significant at either the 0.05 or the 0.01 level. The long-run import–export ratio elasticity is 0.63 with a 95% CI of [0.156, 1.103], so increasing demand for imports does drive GHS/USD exchange depreciation in the long run.

Finally, Model 6 includes all the selected covariates. Not only do most of the effect sizes of the elasticities reduce, some of the coefficients lose precision: the import–export ratio returns imprecise; the fuel import elasticity is now only about 0.20 although significant at the 0.05 level. The estimated interest rate elasticity is about unity with a zero p -value to three decimal places. Per capita GDP growth has a depreciation fuelling effect, raising long-run depreciation by about 3 per cent for a percentage point rise in growth. There could be a number of reasons for this. One is the trade deficit that is created by increasing demand for imported goods and services as per capita growth rises. This increases demand for foreign currency, thus fuelling depreciation. There are, of course, other possible channels through which growth could have a currency depreciating or appreciating effect. Here, however, the depreciation precipitating channels seem to dominate.

The estimated speed-of-adjustment coefficients ($-\alpha$) range between -0.294 and -0.950 , suggesting that, depending on the model, equilibrium deviations due to negative shocks are corrected by between 29 per cent and 95 per cent in a year. In the ‘full model’ (Model 6), an equilibrium disturbance due to a negative shock is corrected by 67 per cent within one year.

Table 9.A-2 reports the short-run error correction component of the ARDL Models 1, 2, 5 and 6 presented in Table 9.A-1. There is evidence of short-term persistence and feedback effects of the exchange rate.

Having established that the economic motivation for the G4O policy is justified, even though the long-run effects of oil imports on exchange rate depreciation may be overemphasised, we next provide a legal and political economy analysis of the initiative.

4 Political Economy and Legal Analysis of the G4O Policy

Developing nations with ample natural resources are increasingly adopting a policy option whereby they trade some resources for processed goods, infrastructure, or loans. This is often observed in crude oil being swapped for refined petroleum products to meet domestic fuel demands (EITI, 2021). The Nigerian

government, for instance, has engaged in swaps with traders, exchanging crude oil for refined petroleum products. (EITI, 2021). There have been issues about the losses—of more than USD 2 billion—incur as a result of crude oil swaps and offshore processing arrangements, about retained earnings by The Nigerian National Petroleum Corporation, and about the pricing of domestic crude sales. In 2016, Nigeria discontinued the crude oil swap and offshore processing arrangements (EITI, 2019, 5). Other countries—such as Côte d'Ivoire, Angola and the Democratic Republic of Congo—have engaged in similar swap deals. In the Ghanaian context, it is important to highlight that there is no historical evidence of the government participating in oil swap arrangements similar to those involving crude for petroleum products or infrastructure seen in other African countries. Nevertheless, in the mining sector the government has established a collaboration with a Chinese state-owned company, entailing the exchange of bauxite for a two billion dollar loan, the proceeds of which are intended to support the development of certain infrastructure projects. It has been observed that these kind of swap deals are carried out without proper legal frameworks, despite evaluations of such exchanges emphasising the need for such frameworks as they are crucial to preventing conflicts with existing laws and to avoiding the exacerbation of issues arising from a lack of regulation.

Legal frameworks play a fundamental role in facilitating the process of policymaking. Ghana's 1992 constitution (Republic of Ghana, 1992), specifically Article 34, establishes the significance of the Directive Principles of State Policy as a guiding force for governmental policy decisions. Also, the National Public Policy Formulation Guidelines (NDPC, 2020) necessitate that each policy undergoes assessment by the Attorney General to ensure its alignment with the law. In the policy formulation process, a preliminary policy document should be submitted to the Office of the Attorney General and Ministry of Justice for evaluation of its legal implications. The Attorney General's responsibility involves scrutinising the draft policy to ensure its harmony with both domestic and international laws as well as proposing corrective measures. In essence, the legal framework precisely delineates the boundaries and parameters within which policymaking operates.

It appears that the G4O policy is being implemented without sufficient legal foundations. This absence of a proper legal framework raises concerns about the potential for IFFs. This section first describes the governance issues that arose following the announcement of the policy and then examines the legal and regulatory gaps that might enable IFFs in the execution of the policy.

4.1 *G4O Governance Architecture and Stakeholder Views on Possible IFF Risks*

As described in Section 2 of this chapter, a number of institutions must work together seamlessly to ensure the successful implementation of the policy. The integration of multiple stakeholders and governmental bodies highlights a collaborative approach aimed at optimising national resources for the benefit of the country and its citizens. However, the gold and the oil sectors in Ghana consist of other key institutions such as the Ministry of Lands and Natural Resources, the Mineral Commission, the Ministry of Finance, the Ghana Revenue Service, the Attorney General, and parliament, all of whom must be extensively consulted to ensure that the policy does not create loopholes that could be exploited by gold traders thereby increasing incentives for IFFs. The ASGM sector could be particularly vulnerable given the already complex nature of activities in that value chain. According to Thomas et al. (2019), the participation of state and non-state actors, the international community, and policy think tanks is essential to efforts to enhance consideration of the ASGM sector in the implementation of programmes and projects.

The introduction of the G4O policy sparked a wave of reactions from various stakeholders, including the major opposition party, media outlets, civil society organisations, academia and think tanks. Former President John Mahama, the leader of the National Democratic Congress and a prominent figure in Ghanaian politics, criticised the policy for its lack of transparency. He emphasised the necessity of parliamentary scrutiny and approval, drawing attention to past international agreements that turned out to be unfavourable due to inadequate oversight and implementation by the government.

In contrast, the Chief Executive Officer of the PMMC contended that the G4O policy had led to a significant reduction in fuel prices, of 9.6 per cent, attributing this positive development to the policy itself (Nyabor, 2023). This assertion was, however, disputed by the Africa Centre for Energy Policy, which argued that there was no evidence of a direct correlation between the G4O programme and fuel prices. The Centre further expressed concerns that the policy might inadvertently concentrate undue influence over the gold and oil value chain in the hands of politicians, underscoring the importance of careful examination and analysis in policy evaluation (Atawoge, 2022).

These contrasting viewpoints underscore the importance of a comprehensive and critical assessment of the G4O policy that considers both its potential benefits and risks. They also emphasise the need for transparency, robust scrutiny, and open dialogue involving various stakeholders to ensure that policies of such a magnitude align with the nation's best interests.

One primary concern is potential redundancy faced by licensed gold sellers due to the exclusive authority granted to the PMMC to purchase gold. These sellers may seek alternative avenues to sustain their businesses, potentially resorting to covert buying and selling practices. Such a covert trade environment creates fertile ground for illicit activities such as smuggling and tax evasion. By circumventing official channels, these activities not only undermine the government's revenue collection efforts, they also reduce the transparency and integrity of the gold trade. Further, failure to engage with the relevant institutions and not abiding by internationally agreed regulations and standards regarding international trade may expose the initiative to rent seeking behaviours.

The formulation and implementation of the G4O policy are rooted in a nexus of economic and political decisions. This necessitates a thorough, pre-implementation examination of stakeholders' involvement in order to unearth potential vulnerabilities to IFFs. There is a need to actively engage both the legal and the illegal miner, both state and non-state actors, both the political and the economic sphere to ascertain how to use the BoG DGPP and the G4O policy to address existing challenges within the mining sector.

Despite the purported success attributed to the G4O initiative, the extent to which this success effectively tackles prevailing challenges in the gold mining sector remains unknown. Notably, the policy fails to directly confront the pervasive informality that characterises the ASGM sector, thus potentially perpetuating IFFs. Addressing this would not only contribute to a nuanced understanding of the policy's impact, it would also serve as a foundation upon which to refine and fortify its strategies to effectively curb illicit financial activities in the large- and small-scale gold mining sectors.

We now turn to our legal analysis of the G4O policy, examining the debates about whether due process was followed, and what the likely risks and implications are for IFFs in the gold value chain in particular and the natural resource sector in general.

4.2 *Legal Basis for the G4O Deal*

Ghana distinguishes between large-scale and small-scale gold mining licences. Large-scale companies usually sell gold at the spot price through international agreements, not locally. The BoG typically cannot buy gold from large-scale miners under the DGPP. Although the Ministry for Lands and Natural Resources (MLNR) initially mandated large-scale miners to sell 20 per cent of their refined gold to the BoG in local currency (GHEITI, 2022), this rule was not included in the G4O policy framework.

Small-scale miners are, however, obligated to sell their gold to the PMMC or government-licensed gold buyers. Consequently, in the G4O policy framework all licensed small-scale gold miners and community mining schemes are required to sell their gold exclusively to the BoG via the PMMC. According to the MLNR, mining licences for these entities should incorporate a clause compelling them to sell their gold to the government (GHEITI, 2022). There is doubt, however, regarding whether existing small-scale mining licences include such a clause, given the timeline for the G4O policy's implementation. Most small-scale miners who have been instructed to sell their gold to the BoG likely hold licences that do not include this requirement. Though section 84 of the Minerals and Mining Act, 2006 (Act 703) empowers the MLNR to attach specific conditions to small-scale licences, it also stipulates that such licences can last up to five years initially, with the renewal period determined at the Minister's discretion (Republic of Ghana, 2006). Thus, during the policy's rollout, many small-scale miners might not have been obligated to sell to the BoG, potentially conflicting with existing contractual agreements with gold-purchasing entities. This defies the sanctity of the miners' contractual licence with gold buyers.

Small-scale gold mining in Ghana is primarily conducted informally, making it susceptible to IFFs due to exploitation by criminal networks (Baku, 2021). IFF risks related to the trade in gold from the artisanal and small-scale mining (ASM) sector are mainly associated with gold smuggling and illegal mining activities (Baku, 2021). The framers of the DGPP expect to formalise the ASM sector, aiming to reduce its vulnerability to illegal actors in both domestic and international gold supply chains. The Ghana Extractive Industry Transparency Initiative (GHEITI) also affirms that the G4O policy aims to centralise gold purchases from the ASM subsector, similar to the cocoa sector, providing the country with increased control over its gold exports.

However, the G4O policy could, as highlighted by the GHEITI (2020), potentially lead to an increase in smuggling since some small-scale miners engage in forward sales with foreign buyers. These forward sales involve commitments to deliver gold doré in exchange for foreign currency at a later date, and typically occur outside organised markets through private negotiations. However, this practice involves risks, particularly regarding defaults on the part of the sellers. Consequently, forward gold purchase agreements usually include substantial penalties for sellers that fail to meet their delivery obligations by the specified date.

The implementation of the G4O policy introduces a challenge to the integrity of these forward gold purchase agreements within the ASM sector, because it could be interpreted as a significant change in circumstances, which in legal

terms could be considered a ‘frustrating event’ that discharges the parties from their contractual obligations. In other words, the policy’s introduction might lead to the inability of small-scale miners to fulfil their prior agreements, impacting the sanctity of these contracts.

Historically, government interference has disrupted private commercial agreements (Drachsler, 1957), and small-scale miners can legally use the G4O policy to void contracts with foreign gold buyers. They are, however, likely to avoid this option due to the customisation and higher premiums associated with forward gold sales. Instead, to personalise contracts, gain premiums and sidestep government mandates, miners might continue illegal gold trading involving smuggling. Thus, the goal of formalising the ASM sector through the DGPP and the G4O policy could become counterproductive, fostering more illegal trade unless this situation changes.

Ghana is committed to the implementation of the Extractive Industries Transparency Initiative (EITI) standards, which seek to promote natural resources management and strengthen accountability within the extractive sector. A particularly relevant standard is Requirement 4.3, which pertains to ‘Infrastructure Provision and Barter Arrangements’. It specifies that

The multi-stakeholder group is required to consider whether there are any agreements, or sets of agreements involving the provision of goods and services (including loans, grants, and infrastructure works), in full or partial exchange for oil, gas or mining exploration or production concessions or physical delivery of such commodities. To be able to do so, the multi-stakeholder group needs to gain a full understanding of the terms of the relevant agreements and contracts, the parties involved, the resources [that] have been pledged by the state, the value of the balancing benefit stream (e.g., infrastructure works), and the materiality of these agreements relative to conventional contracts.

EITI, 2021, 8

Additionally, the guidance note related to EITI Requirement 4.3 provides an interpretation of the term ‘barter arrangements’ as encompassing ‘Agreements involving the exchange of mineral, oil, and gas commodities, whereby the state’s in-kind revenues of mineral, oil, and gas commodities are exchanged for other types of commodities. These include swaps, refined product exchange agreements, and offshore processing agreements’ (EITI, 2021, 10).

The G4O policy involves using gold doré to pay for oil supplied through a barter trade arrangement, meeting the definition of Requirement 4.3 under the EITI standards. While such barter arrangements are legal in Ghana, the

country's commitment to the EITI necessitates the transparent disclosure of their terms for accountability purposes. The guidance note offers some direction on the type of information and data participating countries and companies can disclose to ensure transparency in barter arrangements. However, the effectiveness of these reporting guidelines raises questions, primarily due to the complexity of such arrangements in comparison to monetary transactions.

The G4O policy is particularly complex considering the substantial variation in the character and value of the goods involved in the exchange. Given the complexities associated with barter arrangements, the necessity for tailored, legally binding contracts that explicitly outline the terms and conditions of the exchange becomes an imperative. This customisation of agreements introduces an additional stratum of intricacy, mainly because there are no universally standardised templates available as guidance for such unique arrangements. Consequently, the imperative to disclose the content and specifics of such arrangements becomes even more crucial if transparency is to be ensured. The duty to disclose the value of the commodities being exchanged, the payments executed, the revenues accrued by the government and the taxes being imposed becomes considerably more challenging if the government does not demonstrate a minimum commitment to transparency.

The lack of transparency of the G4O policy stems from the government's failure to submit it to parliament for approval, as required by Article 181(5) of the 1992 constitution. This provision mandates that all international economic transactions in which the government is involved must receive parliamentary approval before their implementation. The Supreme Court's interpretation, as demonstrated in the case of *The Attorney General vs. Balkan Energy Ghana Limited & Others* (2012),⁴ provides criteria for identifying such transactions. First, a transaction will be considered international within the meaning of Article 181(5) if it has a significant foreign element. According to the Court, a transaction will be considered a business or economic transaction within the meaning of Article 181(5) if it has a connection to the country's wealth and resources. The Court also highlights the importance of accountability and probity as having relevance to the meaning of Article 181(5). Consequently, the G4O transaction, being an economic deal with foreign elements and implications for national wealth, can be seen as falling under the Article 181(5) requirements for parliamentary scrutiny.

The interpretation of 'Government' in Article 181(5) is crucial to the identification of international transactions that are subject to this provision. In

4 *The Attorney General Vrs Balkan Energy Ghana Limited & Others* (J6/1/2012) [2012] GHASC 35.

Felix Klomega vs. The Attorney-General (2013), the Supreme Court ruled that ‘Government’ encompasses the executive, legislature, and judiciary,⁵ excluding statutory agencies with separate legal identities. The question is whether this definition applies to the BoG. According to section 1 of the Bank of Ghana Act, 2002 (Act 612), the BoG has a separate legal identity since it can sue and be sued in its corporate name (Bank of Ghana, 2007). Also, it has the power to enter into contracts and transactions in its own name. However, the Supreme Court has noted that the interpretation that the word ‘Government’ does not apply to autonomous agencies is not an absolute rule. Institutions can fall under Article 181(5) if they mirror a government’s actions, becoming its alter ego.

The question arises as to whether the BoG can be considered the alter ego of the Government in the G4O transaction. The G4O programme framework sheds light on this matter. Its opening statement establishes the policy as a government initiative, and throughout the document numerous references to the government imply that the BoG lacks independence in executing the policy. The involvement of the Vice President, who champions its benefits, further reinforces the government’s role in the policy’s formulation.

The prevailing viewpoint within the parliamentary majority is that parliamentary approval is not requisite for the programme, asserting that the programme falls under the purview of the DGPP of the BoG. Additionally, it is asserted that the BoG, by legal mandate, is not obligated to report all its transactions to parliament. However, this argument presents a challenge in light of the antecedent paragraph, which establishes that the BoG is not operating autonomously under the G4O policy but rather as the alter ego of the government.

According to Article 181(5) and the Supreme Court’s interpretation, the G4O transaction should have been presented to parliament for approval due to its significant economic and financial impact on the nation. The failure to seek parliamentary approval undermines the legitimacy of the BoG’s agreements with IOTCs that provide petroleum products in exchange for gold. This situation engenders a tangible risk concerning the breach of contracts with IOTCs in subsequent instances where successive governments fail to adhere to the stipulations of agreements pertaining to the sale of crude oil to these IOTCs. Historical observations reveal that such instances of default commonly precipitate legal disputes, ultimately culminating in substantial debts being incurred

5 *Felix Klomega vs. The Attorney-General*, Ghana Ports and Harbours Authority, Meridian Port Holdings Limited and Meridian Port Services Limited [2013] DLSC2748.

by the nation. Based on the present analysis, there appears to be no solid legal foundation for the G4O policy.

4.3 *A Legal Review of the G4O Programme Framework*

This subsection assesses key components of the G4O policy. These include the valuation of gold and the pricing methods for the purchase of gold, how the proceeds will be transferred, how financing will be obtained for the purchase of gold, the buyer selection method and process and the tax implications of the transaction.

A notable concern in the G4O policy framework is the absence of a specified pricing method for the deal. Additionally, the GHEITI has highlighted that refining gold before sale can impact its realised value. Paragraph 8 of the policy framework elaborates on the execution of the barter trade, indicating that the BoG and the IOTC will establish a gold metal account at an agreed-upon refinery for gold transfer purposes. This implies gold will be refined before serving as payment for petroleum products. In the case of gold trade through the broker channel, meanwhile, the policy framework's language suggests that gold might not be refined. Paragraph 8, once more, outlines a process wherein the BoG will establish a gold supply agreement with a gold broker, whereby the broker acquires doré gold (so, unrefined gold) and provides forex cover for petroleum products.

At the launch of the BoG's DGPP, it was explained that pricing would rely on an agreed-upon pricing source and the cedi-dollar exchange rate to determine gold's value, followed by payment within 48 hours to the gold aggregator. A ministerial directive (GHEITI, 2020) has stated that gold purchased by the BoG and the PMMC under the G4O policy would be bought at the spot price without discounts. This pricing method is not, however, evident within the policy framework itself.

The G4O policy framework lacks provisions concerning the pricing method for gold being sold through the broker channel. This shortcoming could potentially enable the government to use private agreements to determine gold prices within the programme, creating opportunities for price manipulation through mispricing and undervaluation, both which can serve as avenues for IFFS.

The G4O policy framework also lacks transparency regarding the criteria for selecting suppliers/buyers for gold sales and refined petroleum product purchases. The OECD (2019) acknowledges that buyer selection processes can be susceptible to corruption, leading to the selection of buyers who purchase goods at below their market value or who are unable to fulfil their contractual obligations. The absence of regulation in this process could also allow

politically exposed individuals to unduly benefit from the policy through pecuniary interests in transactions.

The Public Procurement Act, 2003 (Act 663) outlines procedures that organisations like the BoG must follow when sourcing and awarding contracts (Republic of Ghana, 2003). Political interference has, however, hindered the effective implementation of Ghana's public procurement laws. To address potential corruption and mitigate the risk of IFFs in the buyer selection process, the OECD (2019) suggests establishing an independent buyer selection team free from political influence. Challenges in the buyer selection process could also be addressed through beneficial ownership disclosure, which is now mandatory under Ghana's Companies Act, 2019 (Act 992). This would enhance transparency by requiring companies to reveal their ultimate beneficial owners, thus reducing the potential for hidden interests and corruption.

The GHEITI *Report on the Oil and Gas Sector 2020* (2020) points out the lack of clarity regarding how the overall transaction costs for the G4O initiative will be covered. While the government will need funds for gold purchases, the specific means of obtaining these funds remain unspecified. It is unclear whether sources such as loan syndication, central bank financing or government budget allocation will be used. According to the NPA, Ghana's average monthly petroleum product import expenses range from USD 350 million to USD 400 million. The absence of a clear financing plan leaves room for potential manipulation by the government and violates the Public Financial Management Act, 2016 (Act 921), which requires the responsible handling of public funds. Responsible fund management necessitates transparency with regard to the source of fund. The process by which proceeds from the sale of gold will be transferred before being used to buy petroleum products is insufficiently described within the programme framework. This issue is part of a broader challenge regarding gold revenue management.

Finally, it is imperative to critically analyse the tax ramifications associated with the policy, given that the G4O transaction falls within the purview of taxable activities as defined by Ghana's prevailing tax legislation. It is worth emphasising that there is no evidence to suggest that the transactions conducted under the auspices of this policy have been granted any tax exemptions, as no such proposal has been presented before the Ghanaian parliament. It is essential to note that, as per Article 174 of the 1992 constitution, the authority to grant waivers or modifications to taxation requirements is vested exclusively in the hands of the parliament.

5 Conclusion and Implications

Using a case study of a new government policy that was introduced in an unconventional manner, this chapter has presented a multidisciplinary analysis of policymaking processes and outcomes in a developing country context. Ghana's G4O deal represents an intricate interplay of economic, legal and political economy issues that provides fertile ground for such an analysis.

First, our econometric analysis underscores the interconnectedness of forex demand, currency depreciation, inflation and living standards, providing a critical lens through which to evaluate the economic motivation for the G4O policy and shedding light on its potential effects on the behaviour of the country's exchange rates. Although the econometric analysis lends some support to the policy, it does not appear that this would have a game-changing effect on Ghana's exchange rate volatility given the long-run oil import elasticity of exchange rate of about 0.20. This means that if the rates of change between the macroeconomic determinates of exchange rates were constant, a 10 per cent decrease in oil imports (which would mean reduced demand for US dollars from oil importers) would dampen exchange rate depreciation by approximately 2 per cent, holding other factors constant.

From a political perspective, striking a harmonious balance between the gold mining and oil sectors necessitates astute political decision-making, active stakeholder engagement, and a focus on long-term socio-economic prosperity. Ghana's journey towards effective natural resource governance requires institutional strengthening, evidence-based policymaking, and sustained citizen participation throughout the policy life cycle. By prioritising the nation's overall well-being over short-term political gains, the nation can harness its natural resource wealth to achieve more equitable and sustainable outcomes.

Perhaps the most important strand of the arguments concerning the G4O policy concerns its adherence or otherwise to laws and regulations. The discourse surrounding the policy underscores the imperative for transparency and adherence to legal frameworks. The call for parliamentary oversight and public scrutiny is crucial if the policy's credibility is to be upheld, as opacity will only breed scepticism regarding its legal basis. The disclosure of essential transaction details is paramount to efforts to counteract IFFs and maintain

alignment with EITI standards. This entails revealing pricing methods, buyer selection processes, involved parties and beneficial ownership information to effectively combat IFFs.

The absence of sufficient transparency in the implementation of the policy introduces challenges in the identification and evaluation of potential disparities in taxation under the policy, as well as the emergence of tax avoidance and evasion mechanisms, which could contribute to IFFs. Given that the policy encompasses trade in gold, it is imperative that the applicable tax obligations, including but not limited to income tax, value added tax and export duties, be adhered to by mining companies, the PMMC and the BoG, in strict accordance with the provisions outlined in the Income Tax Act of 2015 (Act 896), the Value Added Tax Act of 2013 (Act 870) and the Customs and Excise (Duties and Other Taxes) Act of 2013 (Act 864).

One way of ensuring transparency and accountability would be for the policy to explicitly state the pricing method for the transaction, whether gold would be sold based on valuation or not. Introducing a legal requirement for the PMMC and the BoG to disclose the actual prices at which they purchase gold would enhance transparency. Similarly, the G4O policy documents should mandate the BoG to disclose the prices at which gold is sold through the broker channel. This would promote openness, minimise the risk of manipulation, and contribute to the prevention of IFFs.

Currently there exists no established legal and regulatory framework for monitoring and managing the revenues generated from gold sales. If this gap is to be addressed, it crucial that parliament pass a mineral revenue management law. Such legislation would establish mechanisms to track and oversee the revenues generated from both the sale and the purchase of gold under the G4O policy, promoting transparency and effective revenue management.

In summary, effectively navigating the intricacies of resource governance requires a comprehensive strategy encompassing adherence to legal frameworks, inclusive stakeholder engagement, transparency, and a dedicated commitment to the nation's well-being through sound political and economic principles. Through these measures, Ghana can chart a course that optimises the advantages offered by its natural resources, safeguarding the enduring welfare of its populace and the resilience of its economy.

Appendix

TABLE 9.A-1 Long-run relationship between GHS/USD exchange rate economic variables

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Speed-of-adjustment ($-\alpha$)	-0,322 -0,089 [0.000]	-0,294 -0,048 [0.000]	-0,407 -0,091 [0.000]	-0,88 -0,115 [0.000]	-0,95 -0,162 [0.000]	-0,672 -0,103 [0.000]
Ln Import-export ratio (θ_1)	1,482 -0,824 [0.072]		0,923 -0,706 [0.191]		0,63 -0,227 [0.006]	0,291 -0,335 [0.385]
Ln Fuel imports (θ_2)		0,635 -0,224 [0.005]	0,485 -0,178 [0.007]	0,435 -0,092 [0.000]		0,197 -0,079 [0.013]
Ln Interest rate (θ_3)				0,824 -0,104 [0.000]	1,054 -0,102 [0.000]	1,034 -0,148 [0.000]
Ln Inflation rate (θ_4)				0,128 -0,044 [0.004]	0,162 -0,05 [0.001]	0,252 -0,061 [0.000]
Per capita real GDP growth (θ_5)				0,068 -0,018 [0.000]	0,078 -0,019 [0.000]	0,035 -0,015 [0.018]
Observations	40	41	40	40	40	40
Constant included	YES	YES	YES	YES	YES	YES
Trend term included	YES	YES	YES	YES	YES	YES
Adj R-squared	0,657	0,746	0,698	0,853	0,818	0,815
Serial-correlation test p-value	0,355	0,458	0,265	0,499	0,27	0,231
Heteroscedasticity test p-value	0,452	0,238	0,559	0,707	0,632	0,317
Normality test p-value	0,132	0,13	0,118	0,879	0,213	0,533
Bounds test F-stat	7,388	18,991	7,754	20,372	12,974	11,357
F-stat. CV @ 5% I(0)	6,883	6,894	5,167	3,818	3,818	3,535
F-stat. CV @ 5% I(1)	7,96	7,928	6,617	5,591	5,591	5,233

TABLE 9.A-1 Long-run relationship between GHS/USD exchange rate economic variables (cont.)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
F-stat. CV @ 1% I(0)	9,826	9,785	7,361	5,484	5,484	5,021
F-stat. CV @ 1% I(1)	11,23	11,117	9,271	7,836	7,836	7,251
Bounds test t-stat	-3,623	-6,153	-4,484	-7,618	-5,866	-6,511
t-stat. CV @ 5% I(0)	-3,439	-3,447	-3,408	-3,331	-3,331	-3,347
t-stat. CV @ 5% I(1)	-3,76	-3,765	-4,012	-4,369	-4,369	-4,555
t-stat. CV @ 1% I(0)	-4,166	-4,159	-4,174	-4,155	-4,155	-4,158
t-stat. CV @ 1% I(1)	-4,52	-4,507	-4,85	-5,331	-5,331	-5,525

Note: The values in parentheses are standard errors while those in brackets are *p*-values. The lag orders for the models are: Model 1 *ARDL*(4, 2); Model 2 *ARDL*(3, 2); Model 3 *ARDL*(4, 2, 2); Model 4 *ARDL*(2, 3, 3, 0, 4); Model 5 *ARDL*(4, 1, 4, 0, 3); and Model 6 *ARDL*(3, 1, 1, 4, 0, 0).

SOURCE: THE AUTHORS

TABLE 9.A-2 Equilibrium correction form of the *ARDL* exchange rate equations

Variables	Model 1	Model 2	Model 5	Model 6
Δ Ln Exchange rate (t-1)	0,4	0,223	0,394	0,127
	-0,15	-0,1	-0,142	-0,097
	[0.008]	[0.026]	[0.006]	[0.192]
Δ Ln Exchange rate (t-2)	-0,207	-0,189	0,126	-0,083
	-0,117	-0,101	-0,13	-0,089
	[0.077]	[0.061]	[0.331]	[0.353]
Δ Ln Exchange rate (t-3)	0,201		0,358	
	-0,13		-0,157	
	[0.122]		[0.022]	
Δ Ln Import-export ratio	-0,252		-0,102	-0,048
	-0,327		-0,22	-0,208
	[0.440]		[0.644]	[0.818]
Δ Ln Import-export ratio (t-1)	-0,624			
	-0,263			
	[0.018]			
Δ Ln Fuel imports		-0,14		-0,065

TABLE 9.A-2 Equilibrium correction form of the ARDL exchange rate equations (*cont.*)

Variables	Model 1	Model 2	Model 5	Model 6
		-0,057 [0.014]		-0,04 [0.106]
$\Delta \text{ Ln Fuel imports (t-1)}$		-0,083 -0,04 [0.038]		
$\Delta \text{ Ln Interest rate}$			-0,833 -0,185 [0.000]	-0,601 -0,142 [0.000]
$\Delta \text{ Ln Interest rate (t-1)}$			-0,749 -0,182 [0.000]	-0,393 -0,118 [0.001]
$\Delta \text{ Ln Interest rate (t-2)}$			-0,522 -0,148 [0.000]	-0,205 -0,1 [0.041]
$\Delta \text{ Ln Interest rate (t-3)}$			-0,227 -0,09 [0.011]	-0,192 -0,085 [0.024]
$\Delta \text{ Per capita real GDP growth}$			-0,054 -0,021 [0.010]	
$\Delta \text{ Per capita real GDP growth (t-1)}$			-0,045 -0,017 [0.010]	
$\Delta \text{ Per capita real GDP growth (t-2)}$			-0,033 -0,014 [0.022]	
Period of oil production	-0,004 -0,118 [0.975]	0,022 -0,11 [0.842]	-0,569 -0,179 [0.002]	-0,265 -0,113 [0.019]
Period of inflation targeting	-0,282 -0,156 [0.070]	-0,283 -0,125 [0.024]	0,086 -0,132 [0.514]	0,045 -0,142 [0.751]

Note: SE are in parentheses; *p*-values are in brackets.

SOURCE: THE AUTHORS

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PART 4

*Looking Forward: Energy Transition
and Resource Mobilization*



Illicit Financial Flows, Extractive Sectors, and the Energy Transition: Building State Capacity to Finance the SDGs

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Abstract

States play a crucial role in the capture and allocation of commodity revenues shaping development outcomes. This chapter examines their capacity to address illicit financial flows and better finance development programmes, focusing on energy transition revenues. It first reviews the main findings about state capacity to harness commodity revenues to reach key Sustainable Development Goals. It then explores the complex interplay between state capacity, commodity-based financial flows, and development processes in the context of the energy transition. Highlighting the diversity of state capacities among commodity-dependent countries and possible energy transition trajectories, the chapter discusses opportunities and challenges resulting from changes in the volume, type and price volatility of commodities, and associated illicit financial flows associated with the energy transition. State capacity must anticipate and respond to shifts in dependence on fossil fuels to energy transition minerals and renewable energy production in order to avoid repeating illicit financial flow patterns associated with the 'resource curse' and poor development outcomes.

1 Introduction

As the energy transition unfolds, trillions of dollars in investments and revenues will be generated from commodity sectors associated with renewable energy production and widespread electrification (G20, 2022). This expected windfall raises major concerns given the relatively poor developmental outcomes of previous commodity booms in many countries (Carbonnier and Mehrotra, 2022; IGF, 2023). High demand for energy transition minerals (ETMs) increases the number of mining projects in jurisdictions with weak governance and puts pressure on authorities and companies to fast-track projects (TI, 2022). As this chapter suggests, the prevention of illicit financial flows (IFFs) within energy transition sectors, including the extraction of ETMs, represents a significant

challenge for sustainable development in the coming decade.¹ Integrity and fairness within mineral sectors and fiscal structures are also essential if climate mitigation is to rest on a resource-intensive 'green transition' as corruption, tax evasion and unfair revenue distribution increase conflict risks around ETM projects (Clark, 2023; Kellas, 2023).

Both the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs) have emphasised the role of fiscal policy and domestic resource mobilisation in global development efforts (Addison, Niño-Zarazúa and Pirttilä, 2018). The SDGs require significant public expenditures to reduce poverty and improve healthcare, education, gender equality and environmental sustainability. Public investments are also needed for climate adaptation and accelerating the energy transition. Meanwhile, the debt levels of most countries have sharply increased and aid donors have encouraged lower-income countries to increase domestic resource mobilisation, including through revenues from primary commodity sectors. Many countries are seeking to develop ETM sectors in the hope of benefiting from high commodity prices and capital investments as well as to diversify their economies through downstream mineral processing and manufacturing (e.g. electric batteries).

Launched in 2015, the SDGs came at the tail end of a decade-long 'commodity super-cycle' resulting in large part from the rapid growth of infrastructure and manufacturing sectors in China. Hopes of long-term growth fuelled by high commodity prices, major investments in extractive projects, and resource-backed loans had just been dashed by a commodity bust that resulted in debt crises for countries such as Ecuador or Ghana, thereby significantly reducing state capacity and forestalling key investments in SDGs (Ampofo et al., 2021; Kharas, Prizzon and Rogerson, 2014).

As much of the resource curse literature notes, there is a risk that resource-dependent countries have lower incentives to collect domestic revenues compared to other countries, a pattern also observed for foreign aid dependence (Crivelli and Gupta, 2014). This not only affects revenue availability during commodity busts, it also undermines good governance principles—such as the taxation–representation nexus—as top-down flows of external revenues reduce incentives for governments to invest in domestic tax enforcement and for citizens to pay their taxes (Mohtadi et al., 2019; Moore, 2004). The fall-out can include lower state capacity in crucial areas for the SDGs, as well as greater volatility in revenues available for public services. More importantly

1 This chapter focuses on mineral extraction for the energy transition. On illicit financial flows in renewable energy sectors, see, for example, Ren, Hao and Wu (2021), Sovacool (2021) and Williams (2022).

for this chapter's focus, high dependence on resource rents is also associated with greater capital flight—some through IFFs such as corruption and tax evasion—further undermining revenues required to build state capacity, deliver services, and achieve the SDGs (Ndikumana and Sarr, 2019).

The growth of renewable energy sources in the global energy mix and the associated electrification of many economies is expected to have wide-ranging impacts on commodity producers, in part as a result of the overall size and distribution of energy-related resource revenues. While the transition will be increasing revenues for ETM producers and decreasing them for fossil fuel producers, especially for coal and eventually oil or even natural gas (yet often considered a longer-term 'transition fuel' displacing coal in electricity generation). According to the IMF (2021), fossil fuel production generated 70 trillion US dollars in revenues between 1999 and 2018, whereas production of ETMs only generated about USD 3 trillion; but under a *Net Zero by 2050* scenario, ETMs could generate USD 13 trillion and fossil fuels only USD 19 trillion in the period 2021–2040. As a result, there may be a greater risk of IFFs for ETMs given the opportunities associated with massive investments and new rents, as well as fossil fuel producers seeking to squeeze as much wealth out of a declining sector. Still, there remains much uncertainty about the pace of the energy transition and the evolution of revenues for different commodities, as well as their impacts in terms of IFFs and SDGs (Hansen, 2022). One possible scenario is that renewable energies will be added to continued global demand for fossil fuels, resulting in a process of 'energy addition' rather than 'energy transition' (Newell et al., 2020). Such a scenario could result in hard-to-manage dependence on fluctuating revenues for many fossil fuels and ETMs. Despite COP 28's call to 'transition away' from fossil fuels, many ETM producers—including Brazil, Gabon and Mozambique—are still pursuing fossil fuel production projects in an attempt to diversify and maximise revenues.

Many other impacts associated with booming ETMs are expected to resemble those of minerals in general (De Jong, Sauerwein and Wouters, 2021), with key issues including social and environmental impacts (Owen et al., 2023) as well as the capture and allocation of revenues (Carrasco and Madariaga, 2022; Månberger and Johansson, 2019). Several studies have already pointed at the many conflicts associated with ETM projects (Church and Crawford, 2018; Lèbre et al., 2020), with local communities often denouncing the 'sacrificing' of their territories for the sake of a 'green transition' primarily benefiting resource companies and privileged consumers of 'green goods' such as luxury electric vehicles (Deberdt and Le Billon, 2024; Dunlap and Riquito, 2023; Zografos, 2022). Some of the main differences that ETM projects may have in comparison to 'classical' mineral projects potentially include: (i) a high concentration of

production for some ETMs, such as cobalt (70 per cent of global mining occurs in the Democratic Republic of the Congo (DRC)) or lithium (90 per cent originating from Australia, Chile or and China); (ii) greater competition between project investors backed by home countries that are competing geopolitically, which may increase the bargaining power of host countries in the licencing process but also the risks of corruption (Fitzgerald and Salomon, 2022); (iii) a risk of lax regulations and weak enforcement seeking to accelerate the pace of project approval and development, with an increased risk of negative social and environmental impacts, as well as IFFs associated with poor monitoring and auditing of inflated production costs for example (Aggarwal-Khan, 2022); and (iv) inadequate host country expertise on ETMs, including for mineral extraction, processing, and trading audits (Deberdt and Le Billon, 2023).

This chapter engages with the imperative to strengthen state capacity to reduce IFFs out of energy transition commodity sectors in order to achieve the SDGs. The first section provides an overview of relations between state capacity, commodity sectors, and IFFs, focusing on conditions undermining the ability to finance the SDGs. The second explores challenges and opportunities associated with the energy transition and implications for policies seeking to reduce IFFs in commodity sectors. Before concluding, the third section outlines a range of policy recommendations for strengthening state capacity and preventing IFFs in order to achieve a broad set of SDGs.

2 Commodity Sectors, State Capacity, IFFs and the SDGs

Narrowly defined, IFFs refer to money that is illegally earned, transferred, or used across borders. More broadly, the term encompasses transactions ‘that are deemed non-ethical, even if not illegal in the assessed jurisdiction’ (see Musselli and Bürgi Bonanomi, 2020, 1). Several broad categories are often recognised: tax-motivated IFFs including through trade mis-invoicing, abusive transfer pricing, and other practices eroding the tax-base and shifting profits to low-taxation jurisdictions; corruption IFFs including bribery and embezzlement; illegal resource extraction and trading IFFs such as illegal mining; and criminal IFFs such as theft, racketeering and money laundering. Practices within these categories can occur alone or in different combinations, with various impacts on developmental outcomes (Kolstad and Søreide, 2009; Robbins, 2000).

Commodity sectors are often more prone to IFFs due to their high value, their limited transparency and oversight, as well as incentives and opportunities for corruption and tax evasion (Andersen et al., 2017). Weak state capacity

creates opportunities for corruption, tax evasion and other types of IFFs, such as trade mispricing and abusive transfer pricing whereby companies shift profits to low-tax jurisdictions. IFFs deprive countries of vital revenue needed to fund public services and reduce poverty, exacerbate inequalities and political instability, and contribute to environmental degradation and social harms, including conflicts. As a result, many governments and international organisations have promoted measures to address IFF risks in commodity sectors, such as greater transparency in revenue management (e.g. the Extractive Industries Transparency Initiative (EITI)), revised contracts, improved monitoring and reporting systems and stronger anti-corruption laws and enforcement mechanisms (Le Billon, 2011; Igbatayo, 2019). Whereas this study focuses on IFFs occurring in revenue collection, IFFs also take place through revenue allocation that more directly affects SDG-related projects and activities.

Relations between state capacity, commodity sectors, IFFs and the SDGs are complex and multifaceted. On the one hand, commodity sectors can provide a significant source of foreign exchange and revenues for governments, which can be used to fund development programmes and promote economic growth (WEF, 2016). In addition, commodity sectors associated with the energy transition can increase access to affordable and clean energy (SDG 7), provide decent work and economic growth (SDG 8) and contribute to climate action (SDG 13). Nevertheless, commodity sectors can seriously undermine SDGs through greater demand for water, increased pollution, and labour abuses, thus negatively affecting food security (SDG 2), good health and well-being (SDG 3), clean water and sanitation (SDG 6), decent work (SDG 8), life below water (SDG 14) and life on land (SDG 15). Table 10.1 summarises governance risks for ETMs and potential impacts on SDGs.

To a large extent, the impacts of commodity sectors on SDGs will depend on the quality of state governance and the capacity of states to create conditions and to enforce rules enabling the maximisation of positive impacts and prevention or remediation of negative ones. Weak state capacity to ensure financial integrity can contribute to conditions enabling IFFs and more broadly undermine long-term inclusive economic growth (Sharma and Mishra, 2022). The United Nations Economic Commission for Africa, for example, has concluded that key elements of the MDGs, such as halving rates of poverty, could not be achieved in African countries in part because of IFFs (UNECA, 2015; see also Igbatayo, 2019). Similar concerns exist for the SDGs, as IFFs can negatively affect poverty reduction (SDG 1) and quality education (SDG 4), while increasing inequalities (SDG 10) and—in a feedback loop—undermining ‘accountable and inclusive institutions promoting peaceful and inclusive societies’ (SDG 16).

TABLE 10.1 Governance risks and potential SDG impacts

Risks for local stakeholders	Risks for mineral-rich countries
<ul style="list-style-type: none"> – More exploration and mining for transition minerals may encroach on conservation areas and Indigenous and land-connected peoples' territories. SDG 3, 11, 14, 15 – Pressure to approve mining projects may limit time for community consultations and impact assessments. SDG 3, 11, 16 – Water-intensive mining methods may contribute to water scarcity and could have adverse impacts on communities, especially on women and girls. SDG 3, 5, 6, 14, 15 – <i>Rising commodity prices may trigger more unregulated or illegal artisanal and small-scale mining (ASM).</i> SDG 8, 12 – Local government capacity constraints in remote regions may hinder effective planning for sustainable development outcomes. SDG 1, 2, 3, 4, 5, 10, 11 	<ul style="list-style-type: none"> – Lack of robust, public geological data may hinder competition in the development of transition minerals. SDG 9, 10, 12 – <i>Regulation may lag behind developments in the market for transition minerals, causing governance gaps.</i> SDG 8, 12, 16 – <i>Fast-tracking contracts and licenses may increase corruption risks.</i> SDG 10, 12, 16. – <i>Local content policies and state participation may enable favouritism and corruption.</i> SDG 8, 12, 16 – <i>Opaque tax structuring across transition mineral value chains may result in lost revenue for governments.</i> SDG 1–12, 16 – Price volatility may lead to unpredictable revenue flows and macroeconomic planning challenges. SDG 8, 16 – Export-oriented mining policies may fail to realise potential for mineral beneficiation and value addition. SDG 8, 16 – <i>Rushed public procurement for low carbon energy and transport infrastructure may open new channels for corruption.</i> SDG 8, 12, 16

TABLE 10.1 Governance risks and potential SDG impacts (*cont.*)

Risks across transition mineral value chains	Risks to the energy transition
<ul style="list-style-type: none"> – <i>Rising mineral prices may drive smuggling and other illegal activities.</i> SDG 8, 12, 16 – Smelters and refineries may be unable to meet environmental, social, and governance (ESG) standards due to production pressure and soaring energy costs. SDG 3, 6, 7, 8, 12, 14, 15 – <i>Commodity trading deals increasingly involving state-owned enterprises (SOEs) may be at heightened risk of corruption.</i> SDG 16 – Tightened due diligence regulations may disadvantage high-risk producer countries. SDG 10 	<ul style="list-style-type: none"> – <i>Governance weaknesses may disrupt the supply of transition minerals needed for low-carbon energy technologies.</i> SDG 7, 13 – Transition mineral strategies may lead to a decarbonisation divide between mineral producer and consumer countries. SDG 10 – Geopolitical rivalries may weaken cooperation on the energy transition. SDG 7, 13

Note: Risks directly associated with IFFs are set in italics.

The SDGs: No poverty (SDG 1), Zero hunger (SDG 2), Good health and well-being (SDG 3), Quality education (SDG 4), Gender equality (SDG 5), Clean water and sanitation (SDG 6), Affordable and clean energy (SDG 7), Decent work and economic growth (SDG 8), Industry, innovation and infrastructure (SDG 9), Reduced inequalities (SDG 10), Sustainable cities and communities (SDG 11), Responsible consumption and production (SDG 12), Climate action (SDG 13), Life below water (SDG 14), Life on land (SDG 15), Peace, justice, and strong institutions (SDG 16), Partnerships for the goals (SDG 17).

SOURCE: STURMAN ET AL. (2022)

Poor governance can also negatively affect the impact of commodity sectors on a broad set of SDGs, including those relating to environmental quality (Elmassah and Hassanein, 2022). Using a data set for 26 African countries over the period 1990–2016, Tiba and Frikha (2019) confirm institutional quality can reduce the adverse effect of the resource curse, including on SDGs. The study stresses the importance of reducing corruption levels, including through greater accountability, as well as reinforcing state institutions building human

capital. In another study, Barbier and Burgess (2023, 1) observe net welfare changes associated with the 17 SDGs for 99 emerging market and developing economies (EMDEs) over the 2000–2019 period and conclude that ‘long-term progress towards the SDGs in EMDEs hinges on improved management of natural capital and the environment, as well as more effective governance’. They note that this, in part, relies on improving the management and distribution of resource revenues.

2.1 *Commodity Sectors’ Vulnerability to IFFs*

Commodity sectors, especially extractive ones, are generally considered vulnerable to IFFs (Anderson, 2014; Gillies, 2019; Kolstad and Søreide, 2009). This vulnerability can notably result from (i) control by political elites enabling discretionary actions facilitating IFFs, including the blurring of public, shareholder and personal interests in national companies; (ii) limited competition and long-term contracts in commodity sectors resulting in fewer checks and balances compared to more competitive industries; and (iii) inadequate domestic regulations and/or ineffective enforcement combined with complex technical and financial international processes creating opportunities for manipulation in the absence of sound contracts and robust auditing capacity (Le Billon, 2011; Pasculli, 2020). Various stages within commodity project cycles and nodes within commodity supply chains are particularly exposed to specific types of IFFs. For example, initial negotiations over contracts for mineral extraction can lead to high level corruption, while mine construction can increase risks of local over-invoicing to inflate tax-deductible costs and petty corruption to facilitate equipment imports and licences. Mining operations can involve transfer pricing to reduce apparent profitability, and commodity trading can facilitate tax evasion through trade mispricing (Fotoyi, 2021; Nesvetailova et al., 2021).²

2.2 *State Capacity and Commodity Sectors*

State capacity generally describes a government’s ability to design policies, enforce laws, and address the needs and aspirations of its citizens, including through the collection and allocation of public revenues (Besley and Persson, 2010; Savoia and Sen, 2015).³ Strong state capacity is required to ensure

2 For detailed case studies of IFF risks along gold and cocoa value chains in Ghana, see Brugger and Engebretsen (2019).

3 Shaped in part by historical legacies, state capacity requires sustained investment in education, infrastructure and public services (Maseland, 2018; Uslaner, 2017, Von Hau, 2012; for conceptual discussions of state capacity, see Cingolani, 2013; Hendrix, 2010; Hanson and Sigman, 2021).

effective fiscal policies, create transparent and accountable revenue collection systems, and manage revenues to ensure positive developmental impacts from commodity sectors (Akintayo, 2021). This encompasses *institutional*, *administrative*, and *technical expertise* components requiring a skilled workforce and sound bureaucratic processes capable of establishing transparent, accountable revenue collection systems, independent regulatory agencies overseeing commodity sectors, and legal and regulatory frameworks that can promote SDGs (Collier et al., 2010). Greater capacity can, for example, better define and enforce clear property rights, sustainably manage resources, capture and distribute revenues, prevent conflicts, and enforce labour, socio-environmental, or financial standards. In contrast, low capacity can lead to overexploitation, labour abuses, low revenues and environmental degradation, fuelling tensions and undermining the pursuit of SDGs.

When put to good use, state capacity positively correlates with many development indicators (Besley et al., 2022). Yet there are many challenges to building up state capacity for the public good, including legacies and ongoing predatory forms of (neo)colonialism often associated with resource sectors (Acemoglu, 2003; Igwe and Amadi, 2020), clientelistic or patrimonial networks seeking to maximise benefits for incumbent elites (Fergusson, Larreguy and Riaño, 2022), and foreign governments and companies pursuing weak regulatory contexts (Fergusson, Molina and Robinson, 2022; TI, 2021). Whereas some states have strengthened their capacities for revenue capture, they have not had strong incentives to develop capacity for revenue redistribution in order to achieve inclusive development objectives (Anderson, 2014). In Angola, for example, Amundsen (2014) explains that domestic ruling elites have protected and buttressed institutions of extraction—such as a strong state oil company and financial capacities enabling the extraction of oil rents from foreign companies' extraction—but have sidelined and impaired institutions of redistribution to prevent regime change and wealth redistribution. Whereas Angola has not actively pursued ETM production, another oil rentier state, Gabon, has vigorously promoted the growth of its manganese production in order to better prepare for 'post-oil' future development. Gabon has also actively promoted investments in 'climate-smart' conservation through forest-based carbon sequestration. While these activities can assist with decarbonisation and economic diversification, they also risk undermining the rights and traditional livelihoods of local populations through forced displacement and resource access loss (Ali et al., 2023). Among other petrostates, Venezuela serves as a 'cautionary tale for resource-dependent economies that may also undergo post-oil transitions in the future due to shifting global conditions but likewise

lack the necessary state capacity to respond and adapt' (Rosales and Clark, 2023, 1).

Countries relying heavily on commodity sectors face specific challenges, including 'resource curse' effects potentially degrading the quality of institutions and increasing the macroeconomic instability associated with commodity boom-and-bust cycles (Le Billon and Good, 2016; Loayza et al., 2007). Mobilising commodity sectors for development bears specific challenges due to the often remote location of resource extraction sites, which require costly infrastructure development, with commodity-related infrastructures creating IFF risks of their own (Adam and Fazekas, 2023). Many commodity-rich areas have long been marginalised and although new mines' ETMs can contribute to local economic growth, it is often difficult to promote inclusive development through local employment and revenue spending, given the frequent influx of migrants into new mining areas and limited local absorptive capacities (Svobodova et al., 2022). Local resentment against commodity schemes can also increase the risk of community-level conflicts and further reduce positive development outcomes, especially as prior consultation processes for ETMs may be expedited and perceived to be imposed on local communities for the benefit of distant elites and consumers (Conde and Le Billon, 2017; Dunlap and Riquito, 2023; Owen et al., 2023). Finally, concentrating state capacity building around commodity sectors may unintentionally undermine economic diversification as efforts and talent get too focused on these activities and increase the risk of continued exposure to hard-to-manage commodity dependence risks, such as external price shocks (Le Billon and Good, 2016; but see Meierding, 2022).

Beyond state capacity, the effective financing of SDGs and inclusive development outcomes also depends on the capacity of other actors, including alliances of local, regional and international organisations. Such capacity includes the ability to circulate and act upon information pertaining to commodity revenue flows, including tax evasion and corruption. International financial cooperation and anti-corruption organisations can play a major role in this regard, including those in the home countries of extractive companies (Villeneuve, Mugellini and Heide, 2020; Williams and Le Billon, 2017). The strengthening and protection of independence for non-state actors indirectly participating in commodity revenue governance, including civil society and the media, is crucial, and may require a mix of training, arm's-length financial support, the guarantee of political rights, and even physical protection (Arsenault and Le Billon, 2022).

2.3 *Harnessing the Energy Transition for Sustainable Development?*

Conceived as an energy transition from fossil fuels to alternative sources of energies paired with widespread electrification, the decarbonisation of economies will demand massive amounts of ETMs for the deployment of alternative energies and associated networks, products and services (Hund et al., 2023). Core ETMs include cobalt, graphite, lithium, manganese and nickel for battery storage, aluminium and copper for electricity networks, and rare earth elements for electric vehicle (EV) motors and wind turbines. A GIZ/Econias report estimates that ETM-related government revenues in the coming two decades will mostly accrue from copper (44%), lithium (22%) and nickel (20%) (Born, Heerwig and Steel, 2023). Most ETMs have long been exploited, but their growing importance and revenue implications increase stakes around associated financial flows. The risks of IFFs for ETMs are generally similar to those experienced for other mineral sectors (e.g. corruption, abusive transfer pricing), but can be exacerbated by the rapid pace and competitive character of these sectors, as well as by more opaque or oligopolistic trading markets (e.g. for rare earths and cobalt, see Klinger, 2018; IGF, 2023).

Governments and corporations are deploying hundreds of billions of dollars to secure their places in this new 'green tech economy' (Allan, Lewis and Oatley, 2021). The transition will also require the reconfiguration of diverse economic sectors, as land and water are reallocated to ETM mines, biofuels, dams, solar panels, wind farms or transmission lines (Huber and McCarthy, 2017). Although the likely pace of this transition and its impacts on fossil fuel production remain debated and geopolitical events may again send prices soaring, government oil revenues should structurally be facing downward pressure from a progressive decline in demand from high-income countries due to growing numbers of EVs, rising production costs as the complexity of extraction increases, and a likely reduction in investments in new fossil fuel projects.

There are concerns that a rush for ETMs may undermine good governance principles, infringe rights, and exacerbate social inequalities (Clark, 2023; Owen et al., 2023; Sturman et al., 2022). Among the most prominent examples of this is the 'lithium rush', which has seen numerous projects being proposed across nearly all regions of the world. Allegations of corruption have, for example, been made regarding vested private interests of local governors in Argentina, bribery and political financing by lithium companies in Chile, the acquisition of the Uis lithium mine in Namibia by Xinfeng Investments, and the development of the Manono deposit in the DRC (FARN, 2023; Global Witness, 2023). In Zimbabwe, artisanal miners were reportedly violently evicted from the Sandawana mine to facilitate a takeover by 'companies with

close ties to Zimbabwe's ruling ZANU-PF party and the military, including entities facing US or EU sanctions' (Global Witness, 2023, 2–3). In Portugal, Prime Minister Antonio Costa resigned following a corruption probe into the awarding of lithium mining licences (Shaw, 2023). Concerns are particularly acute for countries with weak state capacity as they are more likely to lack the necessary institutional frameworks and technical expertise to address environmental, social and financial challenges. For example, most of the world's ETM projects are taking place within or in close proximity to the lands of Indigenous peoples and peasant communities, 'with adverse conditions for human rights-compatible permitting, consultation, and consent' (Owen et al., 2023, 203).

The energy transition creates more competition over access to mineral resources, as countries and companies seek to secure mineral supplies for 'green technology' sectors. Competition can give producers a stronger negotiating position vis-à-vis investors regarding fiscal terms and requirements for local content or value-added activities. Yet there is also competition among producers as commercial deposits of some ETMs, such as lithium, abound and there are concerns over possible oversupply (Kumar, 2023). Attempts to achieve or maintain a dominant position can lead to what political scientist Eduardo Gamarra calls 'geostrategic corruption', which some critics see as being systematically employed by Chinese companies (cited in Saavedra, 2023). Key state capacities for the ability of countries to address IFF risks (see Table 10.2) and harness commodity sectors to meet the SDGs in an energy transition context are discussed below (see Musselli and Bürgi Bonanomi, 2021).

Much of the fiscal capacity of the state primarily relates to the set of regulations and contracts it can position to maximise revenues and development outcomes. With many new investments taking place and greater competition between companies (but also between producing countries), the energy transition offers a renewed opportunity to reform investment and mining laws, which could increase rents and minimise the negative impacts of the sector. These reforms need to account for the capacity of the state to maintain or improve its regulatory reach. While countries with relatively weak capacities should aim to strengthen them, they should first establish easy-to-enforce rules to reduce IFF risks, such as withholding taxes and the use of referenced commodities (Musselli and Bürgi Bonanomi, 2021). However, the large number of proposed transition projects risks stretching the licencing process capacity of the host government, with a greater risk of corruption accompanying the speeding up and securing of such projects—especially as the competitive context between firms as well as between countries can erode integrity standards, promote regulatory shortcuts, and more generally create a 'resource rush' mentality enticing bad behaviours (Sahla and Salomon, 2022).

States require the capacity to undertake mineral valuation and auditing for both mining and trading operations. The undervaluation of minerals and overvaluation of mining costs—including procurement and services—are two of the basic practices behind IFFs in extractive sectors (Hubert, 2017; OECD, 2016). This requires human, legal and technical resources, which can now include tools such as smart containers and blockchain technology (Chuah, 2023; Okazaki, 2018). This can be challenging when the extraction of ETMs is new in the country, or when the scale of operations changes (e.g. through a new, large-scale, industrial or a small-scale mining rush; see Maconachie and Conteh, 2021). For example, many ETMs are by-products—or ‘subsidiary materials’—of base metals mining operations (Nassar, Graedel and Harper, 2015); being able to detect and tax ETMs has become increasingly important as they have gained value in the context of the energy transition. To build capacity, states can invest in human capacity and information technology (Hemling, Rossing and Hoffjan, 2022), subcontract ore concentration assessments to trusted external laboratories and auditors, leverage international technical assistance, learn through regional exchanges, and require arm’s-length training and equipment from investing companies. Technical and regulatory changes can include disaggregated trade data reporting, with new categories according to ore grades and by-product contents (Carbonnier and Mehrotra, 2020).

Depending on the type of contracts involved, much of state revenue may come from commodity sales contracts. Maximising revenues relies on the selection of buyers and the characteristics of such contracts. IFFs can occur through the biased or corrupt selection of buyers, as well as due to unethical contract characteristics with regard to their duration, terms of trade, and redress mechanisms (Porter and Anderson, 2021). States need to have the capacity to assess the best possible buyers and establish fair and enforceable contracts. Again, the energy transition may pose specific challenges, as the processing and refining of many ETMs and the manufacturing of related products are concentrated, especially in Chinese firms with low levels of transparency in sales contracts (Ali et al., 2022; Church and Crawford, 2018).

Curtailling IFFs requires a capacity to exchange information and cooperate with other domestic and international agencies—such as anti-corruption agencies and fiscal and customs organisations—that hold important data for IFF detection and accountability (Ebire and Daniels, 2022). This rests on adequate regulations and integration into relevant networks, as well as on appropriate human capacity including legal skills. Several international initiatives can facilitate this exchange of information, including the Global Forum on Transparency and Exchange of Information for Tax Purposes, the Oslo Dialogue, and the Financial Action Task Force. Capacity is used for accounting

and data matching skills and to implement accountability mechanisms at fiscal and judicial levels. Information exchange can be crucial to the detection of transfer pricing and to identifying and tracking down beneficial owners (Westenberg, 2018).

The energy transition has significant implications for state capacity to manage commodity sectors' revenue flows for development purposes. Countries that are heavily reliant on the production of fossil fuels may face a significant drop in annual income in the case of an effective transition towards ETM-based renewable energy sources. IFFs can exacerbate these challenges as patterns of fossil fuel and other mineral rent mismanagement may also be repeated for ETMs. Table 10.2 outlines some of the major risk factors of IFFs in resource sectors. Challenges are expected to be particularly acute for countries with weak state capacity and/or a poor record of resource revenue management, as they will lack or misuse the institutional frameworks and technical expertise necessary to effectively manage the transition and prevent IFFs. Table 10.3 highlights the main ETM producers and their relative 'score' in terms of the SDGs, vulnerability to IFFs, criminality within non-renewable resource sectors, quality of resource governance, and perception of corruption level. While such indicators need to be interpreted with caution, Table 10.3 suggests that most countries face serious issues across multiple dimensions, with the partial exception of Australia and Chile. The countries most at risk include the DRC and Myanmar, followed by Mozambique, Madagascar and Zimbabwe, suggesting that historical legacies of colonialism, civil strife and prolonged resource dependence undermined state capacity and integrity.

To sum-up, the mobilisation of ETM revenues for SDGs presents classic challenges associated with extractive sectors, but also opportunities to improve mineral revenue management and promote economic diversification through downstream value addition (IGF, 2023). The rapid growth in demand for ETMs as well as their (geo)political dimensions currently sets this category of minerals apart. Still, lessons learned around reducing corruption and other IFFs—and their implications for the SDGs—apply to ETMs (Igbatayo, 2019), with some progress having been made, for example, in terms of corruption prevention, identification of beneficial ownership, and the fight against abusive transfer pricing (Chowla and Brown, 2023; Makinde and Le Billon, 2023; NRG, 2022).

TABLE 10.2 Risk factors of IFFs in extractive sectors

Decision to extract	<ul style="list-style-type: none"> – Insufficient resources and information to assess the country's reserves – Political discretion and poor governance – Specific risk factors associated with environmental and social impact assessments and land tenure – High-risk investment
Awarding of mineral rights	<ul style="list-style-type: none"> – Non-transparent and asymmetric negotiation and contracts – Inadequate legislative, regulatory and governance framework of the licensing process – Lack of host governments' technical, human and financial resources to manage contract negotiations – Political interference and public-private collusion – Opacity in the process of reallocation of a licence or contract to a third party – Opacity and discretion in bidding processes Absence of an open and competitive bidding process – Opaque and complex financial and commercial arrangements – Nature of the market with high entry costs and limited number of competitors
Extraction operations and regulation	<ul style="list-style-type: none"> – Opacity and discretion in the procurement of goods and services – Patronage, cronyism, clientelism, and favouritism – Lack of competition – Ill-designed local content requirements setting unrealistic targets – Uneven, irregular, and non-transparent enforcement of local content requirements – Vague criteria for the evaluation of waiver applications – Lack of, weak or inadequate internal procedures for book and record-keeping and monitoring – Sudden fluctuations in consultancy fees – Lack of adequate control and metering capacity on production, storage, and transportation – Lack of a coherent framework for measuring and monitoring the country's subsoil wealth – Lack of transparency regarding the process of privatisation or selling of shares

TABLE 10.2 Risk factors of IFFs in extractive sectors (*cont.*)

	<ul style="list-style-type: none"> – Lack of, or inadequate due diligence procedures governing relationship with suppliers – Inadequate corporate internal rules, procedures merging and acquisitions transactions
Revenue collection	<ul style="list-style-type: none"> – Inadequate legislative and regulatory framework for revenue collection – Weak technical, financial, and human capacity in revenue administrations – Lack of revenue collection related data transparency and access – Inadequate tax-related corporate strategy and procedures – Opacity of commodity trading transactions – Opacity over ownership and governance structures of key actors involved in commodity trading – Lack of transparency on commodity-trading related data – Lack of or insufficient corporate due diligence
Revenue management	<ul style="list-style-type: none"> – Lack of a coherent, consistent, and disciplined fiscal policy framework – Weak governance and mismanagement of natural resource funds – Lack of clear, transparent, and consistent rules governing revenue transfers – Lack of co-ordination and asymmetries of information between national and sub-national governments – Lack of human, technical and financial capacity of subnational governments
Revenue spending and social projects	<ul style="list-style-type: none"> – Insufficient capacity for budget planning and execution – Lack of transparency of public procurement processes – Inadequate control and monitoring by central authorities – Mismanagement of extra-budgetary allocations – Inadequate energy subsidy system – Lack of transparency and asymmetry of information about social expenditures made by companies – Mismanagement and misallocation of social expenditures – Weak governance of social development funds

SOURCE: ADAPTED FROM OECD (2016)

TABLE 10.3 ETMs and relevant indicators

Countries	Energy transition minerals	SDG score	IFFS	Criminality	RGI	CPI
Argentina	Lithium	72-78	57	70	-	38
Australia	Copper, lithium, rare earths	75-58	61	80	71	75
Bolivia	Lithium	67-99	55	20	-	31
Brazil	Graphite, lithium, niobium, tantalum	72-8	59	20	-	38
Canada	Aluminium	77-73	62	70	-	74
Chile	Copper, lithium	77-81	58	80	81	67
China	Aluminium, graphite, rare earths	72-38	65	55	-	45
Congo, DR	Cobalt, copper, tantalum	50	65	20	36	20
Gabon	Manganese	62-83	59	30	-	29
Indonesia	Nickel	69-16	64	20	68	34
Madagascar	Graphite, rare earths	50-12	63	30	36	26
Mongolia	Copper	63-51	59	55	70	33
Mozambique	Graphite	53-57	62	20	-	26
Myanmar	Rare earths	64-27	64	20	27	23
Peru	Arsenic, copper	71-93	57	45	75	36
Philippines	Nickel	66-64	64	25	58	33
Russia	Aluminium, cobalt, copper, nickel	74-07	63	25	-	28
South Africa	Manganese, platinum group metals	63-72	57	25	57	43
United States	Copper, lithium, rare earths	74-55	57	45	-	69
Zambia	Copper	54-16	61	55	50	33
Zimbabwe	Lithium	56-77	61	25	29	23

SOURCES: SDG SCORE (DASHBOARDS.SDINDEX.ORG/RANKINGS); IFF: IFF VULNERABILITY TRACKER FROM TAX JUSTICE NETWORK (HTTPS://IFF.TAXJUSTICE.NET/#); CRIMINALITY: CRIMINALITY IN NON-RENEWABLE RESOURCES FROM THE GLOBAL ORGANIZED CRIME INDEX (OCINDEX.NET); RGI: RESOURCE GOVERNANCE INDEX FROM THE NATURAL RESOURCE GOVERNANCE INSTITUTE (RESOURCEGOVERNANCEINDEX.ORG); CPI: CORRUPTION PERCEPTION INDEX FROM TRANSPARENCY INTERNATIONAL (TRANSPARENCY.ORG/EN/CPI/)

3 International Instruments to Reduce IFFs in Relation to the Energy Transition

So far, the main relevant anti-IFF instrument has been the EITI, which includes an inclusive multistakeholder governance model and elaborate compliance standards to bring greater integrity in natural resource revenue flows (Le Billon, Lujala and Rustad, 2021). Launched in 2003, the EITI has helped to disclose trillions of dollars in revenues from about 56 countries—mostly low- to middle-income countries that are also aid dependent (Rustad, Le Billon and Lujala, 2017). The EITI (2023) recognises that the energy transition will have ‘a transformative impact on the extractive industries and global economy [...] expos[ing] producer countries to new risks and opportunities, requiring governments of resource-rich countries to make important decisions about the management of their natural resource wealth’. The EITI already covers disclosure for ETM sectors in participating countries (Sturman et al., 2022) and is considering options for increasing transparency and preventing corruption in renewable energy sectors (Zinnbauer and Trapnell, 2023). Of particular relevance to IFFs, the EITI’s standards require greater disaggregation and information on beneficial ownership, which can be useful to prevent or track down illicit flows (Markle, 2022).

At least two other international instruments are also relevant to IFF risk reduction, even if their primary goal is to ensure reliable ETM supplies in a competitive geopolitical context. Announced in June 2022, the US-led Minerals Security Partnership (MSP) brings together a number of Organisation for Economic Co-operation and Development (OECD) countries and mineral-rich countries to strengthen their ETM supply chains and reduce their dependence on China. The MSP’s stated goal is to ‘ensure that critical minerals are produced, processed, and recycled in a manner that supports countries in realizing the full economic development potential of their mineral resources’ (US Department of State, 2022). Bringing together public and private investments, the MSP is expected to increase transparency and promote high ESG standards throughout critical minerals’ supply chains. A key market for ETMs, the European Union has also passed a new regulation (PE-CONS 2/23) deploying due diligence policies specifically requiring ‘battery business structures to have instruments in place to fight corruption and bribery’. While addressing IFFs is only a secondary objective for each of these instruments—and could conflict with their broader objective of securing supply independence from China—they can still provide leverage for curbing IFFs by directing attention to poor governance and corruption risks, and by providing the foreign assistance and corporate due diligence that could reduce them.

4 Conclusion

The energy transition presents both challenges and opportunities for states to accelerate progress on the SDGs. Countries mining ETMs should, in principle, benefit from the energy transition through greater revenues and economic diversification. Yet there are many concerns about the realised effects of the transition revenue windfall on development outcomes, in part due to IFFs. To benefit from the energy transition, ETM producers need to carefully consider their development strategies, governance structures and organisational competences in order to maximise revenues and inclusive development outcomes, while avoiding repeat patterns of negative social and environmental impacts frequently associated with extractive sectors.

Attracting foreign direct investment, moving up along the value-added ladder, and efficiently capturing and allocating revenues for inclusive development are critical dimensions if ETMs are to contribute to the SDGs. In this regard, ETM producing countries should not only increase their anti-IFF capacity, but also develop policies and capacities promoting domestic processing—rather than simply exporting ETMs as raw materials—as illustrated by Zimbabwe's use of a ban on raw lithium exports to force investment into local processing (Chingono, 2023). Measures to integrate value-added activities within the domestic ETM supply chain should, however, avoid forestalling investments, as in the case of the long-delayed development of Bolivia's lithium sector (Obaya, 2021). By forming regional or commodity trade blocs and collaborating on commodity governance, producing countries can address some of these issues, even though experiences among members of the Organization of the Petroleum Exporting Countries (OPEC) show the challenges and limits of cooperative behaviours (Colgan, 2014). Thus far, a majority of ETM initiatives have been led by high-income countries. Yet, some producers with lower income levels have considered the benefits of greater cooperation, including Argentina, Bolivia and Chile for lithium (Mares, 2022). In addition, efforts to build state capacity should also consider the indirect ways through which IFFs influence the operations of ETM sectors in order to minimise environmental impacts and enhance the overall well-being of citizens, and thereby help achieve the SDGs. Finally, efforts are required to increase the capacity of actors other than states, including civil society alliances, to ensure that the energy transition contributes to inclusive development in commodity producing countries. Further research could include the use of investigative approaches to ETM supply chains with poor disclosure, the assessment of key barriers to anti-IFF capacity building and implementation, and the evaluation

of due diligence processes associated with ETM-related companies and financial intermediaries.

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Illicit financial flows (IFFs) associated with commodity trade erode the tax base of resource-rich developing countries. Efforts to curb IFFs and reform taxation stumble over enhanced North–South tensions but remain crucial to helping poorer countries mobilise domestic resources for development. The 17th volume of *International Development Policy* examines this key part of the wider agenda to restore trust in the multilateral system, calling for a more transparent, effective and equitable trade and tax framework. Based on a six-year multidisciplinary research project encompassing academic institutions in commodity exporting and trading countries, its 24 authors offer a mix of theoretical and empirical contributions and discuss findings of macro- and micro-level studies. The book sheds new light on issues such as addressing push and pull factors through domestic and international policy measures, the preferences of key stakeholders for short-term fixes versus long-term policy reforms, and prescriptive approaches and other options to address tax base erosion in resource-rich developing countries.

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