

Countering Commodity Trade Mispricing in Low-Income Countries: A Prescriptive Approach

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ABSTRACT

Commodity trade mispricing, especially the undervaluation of commodity exports, disproportionately harms low-income countries that depend on commodity exports for most of their export earnings. Such countries should (re)consider adopting rule-based pricing methods as a prescriptive alternative to transaction-based valuation systems. This article firmly grounds rule-based pricing in market parameters. It calls for a hybrid form of market-based price regulation in the framework of public–private models of supply chain governance, also integrating advice from independent experts. This article addresses this policy option within the parameters set by international law, considering state regulatory scope under international trade and tax law. It challenges the popular objection that prescriptive pricing methods breach international trade and tax rules. Instead, it emphasizes the complexity of any such legal assessment under international economic law.

I. INTRODUCTION

This article deals with mispricing practices in international trade transactions, with a focus on commodities¹—hereafter referred to as ‘commodity trade mispricing’. Focusing on policy responses adapted to the needs of low-income countries, this article revisits a ‘prescriptive’ approach to address the problem of commodity trade mispricing and assesses how the approach fits existing international rules. The analysis is organized as follows: [Section II](#) frames the problem of commodity trade mispricing in economic and legal terms, pointing to the development implications and policy challenges involved. It sets the stage for subsequent analyses. [Section III](#) calls for rule-based pricing methods that directly counter commodity trade mispricing and its

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¹ Commodities are unprocessed or semi-processed materials derived from nature that can be bought and sold. For a detailed discussion of the term and meaning, see Irene Musselli, *Agriculture, Price Stabilisation and Trade Rules: A Principled Approach* (The Netherlands: Brill|Nijhoff, 2017) 20–38.

adverse effects. The analysis acknowledges the pitfalls of overly rigid prescriptive methods and instead outlines mitigation strategies that balance simplicity of administration, on the one hand, and the need to consider market dynamics, on the other hand. Section V situates the proposal in a longer history of commodity price regulation, while stressing the distinctive features of the proposed methods vis-à-vis historical price control arrangements. Section IV assesses the legal space that countries possess under international trade and tax law in order to implement this simplified, prescriptive approach. The analysis challenges the popular ‘discursive attack’ on prescriptive methods, which seeks to frame them as ‘illegal.’² Instead, the present analysis emphasizes the complexity of any such legal assessment under international economic law. It pushes back against instrumental uses of legal discourse that reinforce the status quo and delegitimize alternatives.

The analysis enhances policy debates on regulatory ways and means of tackling mispricing, charting a middle path between interventionist and liberal perspectives in the regulation of commodity markets. It adds legal perspectives to the rich economic literature on the topic³ and moves beyond existing legal analyses by considering trade mispricing broadly, rather than from discrete legal angles—for example, legal issues of transfer pricing,⁴ issues of customs valuation,⁵ or specific issues of contract or competition law.⁶ It further enriches the existing literature by revisiting prescriptive pricing methods in ways that mitigate trade-offs between simplicity of administration and market dynamics and by addressing the policy option within the parameters of international trade and tax law.

II. COMMODITY TRADE MISPRICING

Commodity trade mispricing is multidimensional and entangled. It is important to add some granularity to the analysis and unravel the tangled threads of legal and economic issues at play. Doing so makes it possible to fine tune the principal thrust of this article in terms of subject matter and intention.

² For a critical assessment, see Fritz Brügger and Rebecca Engebretsen, ‘Defenders of the Status Quo: Making Sense of the International Discourse on Transfer Pricing Methodologies’, 29 (1) *Review of International Political Economy* 307 (2020).

³ There is a growing body of economic literature on commodity trade mispricing. See, e.g., Ama A. Ahene-Codjoe, Angela A. Alu and Rahul Mehrotra, ‘Abnormal Pricing in International Commodity Trading: Evidence from Ghana’, *International Economics* (2022) (in press, available online at <https://doi.org/10.1016/j.inteco.2022.01.002>); Rahul Mehrotra, Vanthana Nolintha, and Vanxay Sayavong, ‘Commodity Trade Mispricing: Evidence from Lao P.D.R.’, *The International Trade Journal* (2022) (in press, available online at <https://doi.org/10.1080/08853908.2022.2108170>); Rahul Mehrotra and Gilles Carbonnier, ‘Abnormal Pricing in International Commodity Trade: Empirical Evidence from Switzerland’, 74 *Resources Policy* 102,352 (2021). Important insights can also be drawn from the economic literature on trade mispricing in general. See, e.g., Volker Nitsch, ‘Trade Mispricing and Illicit Flows’, in Peter Reuter (ed), *Draining Development?* (Washington DC: World Bank, 2012) 309–34; Lorraine Eden, ‘Transfer Price Manipulation’, *Draining Development?* 205–233; Gilles Carbonnier and Rahul Mehrotra, *Trade-related Illicit Financial Flows: Conceptual Framework and Empirical Methods*, R4D-IFF Working Paper Series, R4D-IFF-WP01-2018, 2018. A detailed assessment of various trade mispricing techniques is provided in World Customs Organization, *Illicit Financial Flows via Trade Mis-invoicing: Study Report 2018* (WCO, 2018) and Financial Action Task Force, *Trade Based Money Laundering* (FATF/OECD, 2006). For a discussion of the determinants of trade mispricing, see, e.g., Ajay Shah, Abhijit Sengupta and Ila Patnaik, ‘Determinants of Trade Mis-invoicing’, 23 *Open Economies Review* 891 (2012); Maria E. de Boyrie, ‘Determinants of Capital Flight and Capital Movement through Trade Mispricing: The African Case’, 6 (6) *African Journal of Accounting, Economics, Finance and Banking Research* 1 (2010).

⁴ Transfer pricing risks in relation to the commodity trade have been examined at length in a number of reports. See, e.g., Alexandra Readhead, *Preventing Tax Base Erosion in Africa: A Regional Study of Transfer Pricing Challenges in the Mining Sector* (Natural Resource Governance Institute, 2016).

⁵ See, in particular, the literature on customs valuation and implementation challenges for developing countries. See, e.g., Vinod Rege, ‘Customs Valuation and Customs Reform’, in Bernard M. Hoekman, Philip English and Aadiya Mattoo (eds), *Development, Trade, and the WTO: A Handbook* (Washington DC: World Bank, 2002) 128–138; J. Michael Finger and Philip Schuler, ‘Implementation of Uruguay Round Commitments: The Development Challenge’, in *Development, Trade, and the WTO*, 493–503; Yukyun Shin, ‘Implementation of the WTO Customs Valuation Agreement in Developing Countries: Issues and Recommendations’, 33 (1) *Journal of World Trade* 125 (1999).

⁶ Two strands of literature are highly relevant in this context: analyses of *ex ante* regulatory and *ex post* judiciary control of contractual price terms (see Yeşim M. Atamer and Pascal Pichonnaz (eds), *Control of Price Related Terms in Standard Form Contracts* (Cham: Springer International Publishing, 2020)) and the growing body of legal literature on abuse of buyer power and unfair trading practices in commodity chains (for example, Victoria Daskalova, ‘Regulating Unfair Trading Practices in the EU Agri-Food Supply Chain: A Case of Counterproductive Regulation?’ 13 (21) *Yearbook of Antitrust and Regulatory Studies* 7 (2020)).

A. The problem unpacked

In plain language, mispricing occurs when something is not properly priced. To misprice is ‘[to] price incorrectly or inappropriately.’⁷

In economic terms, trade mispricing occurs when goods or services are ‘abnormally priced’ with reference to prevailing ‘market prices’,⁸ and these deviations are not justified in commercial terms. In commodity trading, mispricing can cause significant losses for the most vulnerable countries, as discussed in the following section.

Legal perspectives on mispricing are fragmented and sectoral. Similar to looking through a kaleidoscope, numerous relevant aspects of mispricing come into view under the lens of different bodies of law at different levels. This reflects the complexity of the underlying motives and practices involved, which vary widely and are often difficult to pinpoint precisely, as outlined below.

Some mispricing arrangements involve fraudulent misrepresentation and deceitful activities, for example, when trade documents are faked, the stated value of a transaction deviates from its factual economic value in practice. Such mispricing might be done, for example, to avoid paying appropriate taxes in the exporting country, to transfer and conceal money offshore, or to circumvent capital controls, trade regulations, and/or exchange regimes. Such cases are referred to in public debates as instances of trade ‘misinvoicing.’⁹ Defined this way, trade misinvoicing generally amounts to a form of customs and tax fraud—a serious crime in most jurisdictions.¹⁰

Other mispricing arrangements in commodity trading reflect the discretionary power held by state-owned enterprises (SOEs) regarding the sale of publicly owned commodities. In this context, the use of discretion by SOEs opens up opportunities for corruption, favouritism, and public rent diversion and can result in the selection of buyers who purchase commodities for less than their fair market value.¹¹ Such suboptimal allocation of sales contracts reflects gaps in the corporate governance of SOEs and in the regulation of buyer selection processes. Domestically, it raises legal issues at the intersection of company law, administrative law, and sectoral regulations.

In the context of related-party sales, (transfer) mispricing is used by multinational enterprises (MNEs) to artificially shift profits from higher-tax jurisdictions to lower-tax jurisdictions, thus reducing the overall tax bill of the corporate group. For example, a mining enterprise might internally transfer (even just on paper) its mineral output to its trading arm in an offshore jurisdiction at below-market prices, from where it is later sold at market prices, effectively shifting the sales revenue and taxable profits abroad, especially to a low-tax jurisdiction. From a legal perspective, such practices engage a country’s transfer-pricing regime, as shaped by domestic legislation and applicable tax treaties.

Finally, under-priced commodity exports may simply reflect information asymmetries and bargaining power imbalances in trade relations. This is a recurrent feature in agricultural markets, which often exhibit a production structure characterized by many small-scale producers and increasing concentration at the buying end (trading and processing).¹² This asymmetry gives rise to the potential for exercise of oligopsonistic or monopsonistic purchasing power, including

⁷ ‘misprice, v.’, *OED Online*, September 2019, Oxford University Press, <https://www.oed.com/view/Entry/252889?redirectedFrom=misprice> (visited 29 June 2022).

⁸ The economic literature uses prices obtained from commodity exchanges or the interquartile price range as a proxy for ‘market prices’. See Gilles Carbonnier and Anne Zweynert de Cadena, ‘Commodity Trading and Illicit Financial Flows’, *International Development Policy* [Revue internationale de politique de développement [Online]] (2015).

⁹ For an in-depth analysis of trade misinvoicing practices, see World Customs Organization, above n 3.

¹⁰ In Switzerland, for example, trade misinvoicing (forgery of documents) is a felony and a predicate offence to money laundering (Art. 146 and 305-bis of the Swiss Criminal Code).

¹¹ OECD, *How to Select Buyers of Oil, Gas and Minerals: Guidance for State-Owned Enterprises* (Paris: OECD Publishing, 2020).

¹² For an overview of the issue, see Sophia Murphy, *Concentrated Market Power and Agricultural Trade*, EcoFair Trade Dialogue Discussion Paper 1 (Heinrich Boell Foundation, 2006).

the ability to set prices below competitive levels. In legal terms, the problem can be framed as an issue of abuse of buyer power or unfair trading practices in the context of competition law and contract law.¹³

B. Socio-economic costs for developing countries

Whatever its underlying motives and techniques, commodity trade mispricing—especially the undervaluation of commodity exports—disproportionately harms low-income countries. The poorest countries are particularly dependent on commodity export proceeds to meet their development needs. As reported by the United Nations Conference on Trade and Development (UNCTAD), in 2018–19, on average, low-income countries derived approximately 87.6% of their merchandise export earnings from the commodity sector—the shares for lower middle-income countries, upper middle-income countries, and high-income countries were 43.1%, 29%, and 27.1%, respectively.¹⁴ In Africa, over 80% of countries qualify as commodity-dependent.¹⁵ In such countries, commodity exports at a discount—i.e. below market prices—cause substantial income losses for producers and strip public treasuries of much-needed funds for development.¹⁶ This occurs through different channels, as discussed below.

The tax impacts are conspicuous: undervalued exports translate into diminished sales proceeds and implied tax revenue losses at source, by eroding taxable profits in producing countries. For example, abnormally undervalued exports of gold and cocoa from Ghana, estimated at United States Dollars (USD) 8.8 billion between 2011 and 2017, carried an implied tax revenue loss of USD 2.2 billion.¹⁷ Tax risks are heightened when the commodity is sold to a related party offshore: a recent empirical study on coffee exports from Lao People's Democratic Republic (PDR)—mainly traded to related parties offshore—revealed that over 70% of coffee shipments from Lao PDR in 2012–17 were undervalued, causing an estimated tax revenue loss of USD 3.1 million during the study period.¹⁸

Another impact channel is government revenue from the sale of publicly owned commodities. Discounted sales of publicly owned oil, gas, and minerals can be of particular economic significance to the budgets of developing countries, due to the scale of revenues involved. According to the Natural Resource Governance Institute, oil and gas sales from 35 countries' SOEs generated over USD 1.5 trillion in 2016, accounting for 22% of those countries' total government revenue.¹⁹ The sub-allocation of sales contracts by SOEs hinders a direct revenue stream that significantly influences individual countries' national budgets.

While the above impacts affect government revenues, mispricing associated with buyer power in agricultural markets—i.e. the ability to set prices below competitive levels—directly affects farm income, creating strong downward pressure on wages for agricultural workers. Poor rural households in low-income countries lose income from selling their farm produce at lower prices.²⁰ Over time, declining farm income discourages investments and hurts agricultural productivity, causing widespread rural poverty.²¹ Here, commodity trade mispricing

¹³ The issue has arisen prominently in the EU agri-food supply chain. For an overview, see Daskalova, above n 6.

¹⁴ See UNCTAD, *State of Commodity Dependence 2021* (Geneva: United Nations, 2021) 14.

¹⁵ *Ibid.*, at 9. Countries are qualified by UNCTAD as being commodity-dependent when commodity export proceeds account for more than 60% of total merchandise exports in value terms.

¹⁶ According to UNCTAD, Africa lost roughly USD 40 billion through export under-invoicing in the extractive sector in 2015, at huge cost to development. UNCTAD, *Economic Development in Africa Report 2020: Tackling Illicit Financial Flows for Sustainable Development in AFRICA* (Geneva: United Nations, 2020).

¹⁷ See Ahene-Codjoe et al, above n 3.

¹⁸ See Mehrotra, Nolintha and Sayavong, above n 3.

¹⁹ Alexander Malden and Joseph William, *Big Sellers: Exploring the Scale and Risk of National Oil Company Sales*, Briefing (Natural Resource Governance Institute, 2019).

²⁰ This effect may be less than offset by welfare gains for the urban poor, who tend to be net food buyers. See Aksoy M. Ataman and Aylin Isik-Dikmelik, *Are Low Food Prices Pro-Poor? Net Food Buyers and Sellers in Low-Income Countries*, Policy Research Working Paper 4642 (Washington, DC: World Bank, 2008).

²¹ See also Murphy, above n 12.

intertwines with long-standing concerns about fair producer prices and the need to maintain farm income.

C. Inadequate policy responses

Low-income countries are the most impacted by mispricing practices concerning commodities. Meanwhile, they are the least equipped to respond to the problem using conventional ‘transactional’ regulatory approaches. Such methods typically entail *ex post* price adjustments using judicial or administrative controls, rather than *ex ante* price regulation.²² Furthermore, when assessing and adjusting prices, they generally involve individualized fact-intensive analysis of the circumstances of the case.

Transactional methods are the norm in tax and customs valuation, raising specific challenges for countries with limited institutional capacity and understaffed administrations. In the area of transfer pricing law, for example, the norm enshrined in the Organisation for Economic Co-operation and Development (OECD) Transfer Pricing Guidelines (TPGs)—considered the international standard in the domain—is 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).²³ Under the TPGs, tax administrators are entitled to reassess and adjust the transfer prices of commodities traded within an MNE to bring them in line with ‘arm’s length’ prices, but based on a fact-intensive assessment of the specificities of each transaction.²⁴ Transactional approaches similarly apply in customs valuation.²⁵

Overall, transactional valuation methods are costly regulatory options for low-income countries, in that they are difficult to deploy, operate, monitor, and maintain. Satisfying the requirement of individualized fact-intensive analysis is particularly demanding for tax administrations in low-income countries, which generally lack the relevant technical capacity and expertise.²⁶ Furthermore, as pointed out by the BEPS Monitoring Group, this requirement results in ‘a severe information asymmetry, since a company will always know more about its own business and its sector than any outsider, especially tax authorities [...]’.²⁷ As regards customs, it has been observed that, in the absence of well-developed computerized price databases (the situation of low-income countries), it is difficult for customs administrations to apply transactional rules.²⁸ Interestingly, many developing countries used to rely on minimum values and other notional concepts to determine customs duties as a safeguard against undervaluation.²⁹ Eventually, the transactional standard was more or less forced upon them ‘with little concern for what implementation [would] cost, how it [would] be done, or whether it [would] support their development efforts’.³⁰

²² For a broad discussion of the two regulatory paths, see Atamer and Pichonnaz, above n 6.

²³ See OECD, *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2017* (Paris: OECD Publishing, 2017), Chapter II.

²⁴ See Section V.B.

²⁵ See Section V.A. On the relationship between valuation for customs and transfer pricing purposes, see Anuschka Bakker and Belema Obuoforibo (eds), *Transfer Pricing and Customs Valuation: Two Worlds to Tax as One* (IBDF, 2009).

²⁶ In this direction, see, e.g., Sol Picciotto, *Problems of Transfer Pricing and Possibilities for Simplification*, ICTD Working Paper 86 (International Centre for Tax and Development, 2018). Analyses by the Independent Commission for the Reform of International Corporate Taxation, the International Centre for Tax and Development, and the BEPS Monitoring Group converge in this direction. The need for simpler, targeted rules better tuned to the needs of developing countries has been asserted in high-level technical and policy forums in Africa, including the Coalition for Dialogue on Africa, the African Tax Administration Forum, and the African francophone countries members of the Exchange and Research Centre for Leaders of Tax Administrations.

²⁷ BEPS Monitoring Group, *Submission to the OECD on the Public Consultation Document What Is Driving Tax Morale?* (BEPS Monitoring Group, 2019) 4.

²⁸ For a detailed discussion of the various implementation challenges, see Finger and Schuler, above n 5; Rege, above n 5, at 130–31; Shin, above n 5, at 130. Others argue that transaction-based valuation systems are feasible, if countries acquire the in-depth knowledge and expertise needed. Cf. Shin, above n 5.

²⁹ Rege, above n 5, at 130; Sheri Rosenow and Brian J O’Shea, *A Handbook on the WTO Customs Valuation Agreement* (Cambridge: Cambridge University Press, 2012) 14–21.

³⁰ Finger and Schuler, above n 5, at 493.

This encourages us to consider more immediate regulatory approaches that directly counter trade mispricing and its revenue effects.

III. A PRESCRIPTIVE POLICY RESPONSE

With the basic understanding of trade mispricing outlined above, we now turn to the policy question: What regulatory instruments or approaches can be effectively applied to curb commodity trade mispricing in contexts characterized by relatively limited administrative and financial resources? In this article, we argue that ‘prescriptive’ pricing methods may provide a suitable and effective policy response to counter undervaluation of commodity exports, if structured in ways that achieve simplicity of administration while preserving market dynamics. The solution proposed here involves rule-based pricing as an alternative to the transactional price setting by contracting parties. It results in prescriptive tax policy options and the regulation of price terms in contracts. The pricing methods involved are called ‘prescriptive’ based on their rule-based characteristics, since corresponding laws and regulations directly prescribe the price benchmarks and pricing formulas to be applied. We argue that such formulaic, rule-based pricing methods are a valuable and workable option for countries with understaffed and unsophisticated tax administrations. They offer a stopgap until low-income countries can build up good government and sophisticated tax administrations.

The regulatory tools and approaches discussed here not only are situated in a long history of commodity price regulation but also incorporate more flexible, market-oriented configurations. The proposed approach, in particular, does not aim at interfering with or controlling ‘free market’ prices. Instead, it aims at enforcing fair market prices in cases of identifiable market imperfections or failures. Its distinguishing feature is that it does so by means of *ex ante* regulation (prescriptive alternatives)—in contrast to *ex post* price adjustments using judicial or administrative controls (current mainstream approaches).

The following section describes the approach through illustrations from a variety of contexts. It then considers ways to ground prescriptive pricing in market valuations, while maintaining the rule-based characteristics of such pricing. There are two important caveats to this analysis.

First, the prescriptive options discussed below depart from the mainstream transactional valuation methods outlined above.³¹ Popularly described as conflicting with transactional norms in tax policy and customs valuation and/or with the basic idea of contract freedom, prescriptive approaches have largely been ignored in the public discourse to date.³² However, these options merit at least the same level of consideration and critical assessment as current mainstream regulatory approaches.

Second, the following analysis draws its examples from individual state (and industry) practice and presents the options described as a viable policy alternative for low-income countries. In so doing, it posits these states’ regulatory space as unencumbered, assuming that they retain sufficient sovereign rights to regulate commodity sales that are not already constrained by obligations of treaty or contract. As discussed in [Section V](#), in actual practice, the legal viability of these specific proposals is bound to turn upon any relevant (bilateral or regional) treaty obligations, as well as the existing contractual/regulatory arrangements in force.

A. Prescriptive options

When examining prescriptive pricing options for countering commodity trade mispricing, it is useful to distinguish between prescriptive approaches to *taxation*, on the one hand, and the regulation of price terms in *contracts*, on the other hand.

³¹ Refer to [Section II.C](#).

³² See Brugger and Engebretsen, above n 2 and [Section V](#).

Prescriptive approaches to taxation use benchmark prices to calculate commodity sales revenues for various tax purposes.³³ The regulator intervenes in assessing the tax value of commodity sales, without impacting the actual transaction prices used.

For income tax purposes, one approach is the so-called *sixth method* under transfer pricing law. The sixth method authorizes or compels taxpayers (when filing a tax return) and tax administrations (when auditing a taxpayer's position) to look to reference prices when determining the tax value of commodity sales, particularly in the context of related-party sales.³⁴ The sixth method has been used in several Latin American countries³⁵ and in Zambia³⁶ with many variations.

Going a step further, under *administered pricing* regimes, the relevant tax administration calculates sales revenues for income tax purposes based on an administratively set price, rather than the reported sale price.³⁷ In Norway, for example, under *Section IV* of the Petroleum Taxation Act, the Petroleum Price Board (PPB) sets 'norm prices' that are used to calculate the taxable income for oil companies.³⁸ The system has one major advantage compared to the sixth method: namely, the 'first mover advantage' lies with the tax administration, which sets the price for tax purposes; the burden of requesting and proving adjustments is with the taxpayer.³⁹

Valuation methods based on notional prices, rather than prices actually agreed between trading partners, have also been deployed for assessing (price-based) royalties and for customs valuation purposes. In Guinea, for example, production and export taxes for bauxite—an ore containing alumina—are calculated based on the three-month London Metals Exchange selling price for aluminium multiplied by the estimated aluminium content (the standard calculation is that one tonne of bauxite will contain 40% aluminium).⁴⁰ In Lao PDR, the Ministry of Energy and Mines assesses royalties for copper using a price formula that references the London Metal Exchange (LME) Official Price for copper.⁴¹

While the above schemes set values for tax purposes only, other prescriptive methods directly intervene regarding prices and price-related terms in contracts.

In both Ghana and Nigeria, for example, the national oil companies use formula pricing for the sale of crude oil cargoes. The pricing formula is derived from publicly quoted prices, with standardized premiums/discounts and standard netback adjustments to suit different circumstances.⁴²

³³ Benchmark prices include prices compiled and published by commodity exchanges, price reporting or statistical agencies, or governmental price-setting agencies, where they are used as a price reference in the trade.

³⁴ For an overview of the various 'sixth method' variants, see United Nations, *United Nations Practical Manual on Transfer Pricing for Developing Countries*, 2nd ed. (New York: United Nations, 2017) 217–19. See also Veronica Grondona, *Transfer Pricing: Concepts and Practices of the 'Sixth Method' in Transfer Pricing*, Tax Cooperation Policy Brief 2 (South Centre, 2018).

³⁵ A detailed compilation of sixth method transfer pricing provisions in the Latin American context is provided by the Inter-American Center of Tax Administrations (CIAT) (CIAT, *Data Base on Transfer Pricing Rules and Practices in Latin American and Caribbean Countries*, <https://www.ciat.org/transfer-pricing/?lang=en>).

³⁶ Republic of Zambia, Income Tax (Amendment) Act 2008, section 97A. For an assessment, see Alexandra Readhead, *Special Rules for Commodity Sales: Zambia's Use of the 'Sixth Method'* (Natural Resource Governance Institute, 2017).

³⁷ For a discussion of administered pricing in hard commodities, see Michael C. Durst, *Improving the Performance of Natural Resource Taxation in Developing Countries*, ICTD Working Paper 60 (International Centre for Tax and Development, 2016) and Alexandra Readhead, *What Mining Can Learn from Oil: A Study of Special Transfer Pricing Practices in the Oil Sector, and their Potential Application to Hard Rock Minerals*, CGD Policy Paper 128 (Center for Global Development, 2018).

³⁸ In Norway, regulations related to norm price fixing are stipulated by Royal Decree pursuant to Act of 21 June 1963 No. 12 related to exploration and exploitation of subsea natural resources.

³⁹ Durst and Readhead, above n 37.

⁴⁰ The formula is the price of one tonne of aluminium $\times 0.4$ (Alexandra Readhead, *Monitoring the Value of Mineral Exports: Policy Options for Governments*, GF-OECD Programme to Address BEPS in Mining (International Institute for Sustainable Development and the Organisation for Economic Co-operation and Development, 2018) 44). The terms for the calculation are set in Articles 161 and 163 of the *Code Minier* (2011), as amended by the Act L/2011/006/CNT of 9 September 2011.

⁴¹ The formula is administratively set on the basis of Decision No 0481/MOEN, dated 20 April 2012. See Nalonglith Norasing and Irene Musselli, *Transfer Mispricing Laws in Context: The case of Lao PDR*, R4D-IFF Working Paper Series, R4D-IFF-WP06-2019, 2020.

⁴² For details, see OECD, above n 11, at 30.

Formula pricing has also been effectively used in the context of state-controlled marketing of export crops.⁴³ The trading arm of Ghana's Cocoa Board, for example, sells forward over the counter the bulk of the national cocoa production based on production forecasts; the selling price is based on future prices on the London terminal market or at NYSE/LIFFE, closest delivery date, plus a premium.⁴⁴

The above arrangements refer to the sale of publicly owned commodities or to state trading of agricultural products. Other prescriptive options interfere with private contracting in the marketplace, either by regulating prices directly or by framing the way prices are negotiated and set.⁴⁵ In this direction are legislative provisions that automatically void certain price terms in contracts.⁴⁶ Other regulatory approaches go a step further in the direction of direct price regulation. An interesting development in this respect is the laws *EGalim* in France,⁴⁷ which require that farmers propose prices on the basis of production costs and that interbranch organizations develop benchmarks of production costs and market indicators.

B. Trade-offs and mitigation strategies

The prescriptive methods outlined above are a simplified, targeted means to counter commodity trade mispricing. Compared with transactional valuation methods, they are relatively easy to administer, especially in their most rudimentary form, as they reduce the need for thorough analysis of the facts and circumstances of individual transactions. This analysis is corroborated by empirical findings on the use of prescriptive approaches to counter trade mispricing in developing countries.⁴⁸

However, prescriptive methods also involve some complex design issues that raise quite intractable trade-offs.

On the one hand, if overly rigid and too simplified, they may cause the same types of distortions and economic inefficiencies that led to the dismissal of old-style price control mechanisms in commodity trading.⁴⁹ Note in this respect that commodities are often traded in intermediary forms (e.g. pig iron, gold doré, or ore concentrates) for which no public price quotations exist or are subject to large variations in grade or delivery terms. In such cases, reference prices can

⁴³ State trading has been a key feature of the marketing of export cash crops in developing economies. Statutory marketing, in particular, combing a monopoly on foreign trade with the management of domestic production and marketing, was a key feature of commodity trading in tropical Africa.

⁴⁴ For more details, see Musselli, above n 1, at 76.

⁴⁵ Specific options in respect of long-term supply arrangements, swap arrangements, and other commodity-backed deals are discussed in Anton Löf and Magnus Ericsson, *Commodity Trading: Understanding the Tax-Related Challenges for Home and Host Countries* (International Institute for Sustainable Development, 2019), at 58–59 and 68.

⁴⁶ This may involve amendments of the competition law or the contract or commercial law (Daskalova, above n 6). Examples can be drawn from national and EU rules on unfair trading practices—notably, Directive 2019/633 (OJ L 111, 25.4.2019, p. 59), prohibiting specific types of unfair trading practices in the agricultural and food supply chain. For an overview, see Jan Falkowski, Calude Menard, Richard J. Sexton, Johann Swinnen and Senne Vandevelde, 'Unfair Trading Practices in the Food Supply Chain: A Literature Review on Methodologies, Impacts and Regulatory Aspects', JRC Technical Report (Publications Office of the European Union, 2017).

⁴⁷ The so-called laws *EGalim 1* (Law no 2018–938 of 30 October 2018, JO 1 November) and *EGalim 2* (Law no 2021–1357 of 18 October 2021, JO 19 October). See Louis Vogel and Joseph Vogel, 'La réforme du droit des relations commerciales par la loi *EGalim*', *AJ contrat* 510 (2018) and Xavier Delpech, 'EGalim 2: une nouvelle loi visant à protéger la rémunération des agriculteurs', *Dalloz Actualité* (2021).

⁴⁸ In Brazil, for example, use of the sixth method and fixed margins has resulted in increased revenues and very few tax disputes, with low enforcement efforts (see Isabel Calich and João Dácio Rolim, 'Transfer Pricing Disputes in Brazil', in Eduardo Baistrocchi and Ian Roxan (eds), *Resolving Transfer Pricing Disputes* (Cambridge: Cambridge University Press, 2012) 519–54). In Africa, the Zambia Revenue Authority has effectively countered under-invoicing of mineral sales by using publicly available benchmark prices (Readhead, above n 36). In Ghana, the current low incidence of abnormal pricing in cocoa bean exports has been attributed to the fact that the bulk of cocoa is sold forward by a state-owned company using a transparent pricing formula linked to publicly quoted prices (see Ahene-Codjoe et al, above n 3).

⁴⁹ Prescriptive approaches to taxation may end up imputing a notional income to taxpayers. For a critic of gross-based taxation, see, e.g., Andrew Chamberlain and Patrick Fleenor, *Tax Pyramiding: The Economic Consequences of Gross Receipts Taxes*, Special Report 147 (Tax Foundation, Washington, DC, 2006). Regarding price regulations, economists have long argued that market intervention results in serious disequilibrium and misallocation of resources. Notably, Theodore W. Schultz, *Distortions of Agricultural Incentives* (Bloomington: Indiana University Press, 1979). For a reassessment, see David M. G. Newbery and Joseph E. Stiglitz, *The Theory of Commodity Price Stabilization: A Study in the Economics of Risk* (Oxford: Oxford University Press, 1981).

still be used, but adjustments to the quoted price are needed to ‘netback’ relevant costs incurred between the valuation point and the market pricing point or to reflect variations in grade/quality or delivery terms.

On the other hand, ad hoc adjustments to quoted prices offer scope for manipulation and can enable many arbitrary pricing decisions. Eventually, they may undo the advantages of the prescriptive approach tout court—namely, administrative simplicity and resistance to corruption, frustrating its very rationale. Misinvoicing tends to be highly correlated with corruption in exporting countries.⁵⁰ It is questionable whether prescriptive alternatives subject to transaction-based adjustments can succeed in a corrupt environment.

A number of design features can help mitigate or reconcile such trade-offs—between the need to ground price setting in market valuations, on the one hand, and administrative simplicity and low susceptibility to corruption, on the other hand.

First, particularly when reference prices are used without adjustments or in very rudimentary form, there must be some balance between prescriptiveness and flexibility. In order to achieve this balance, prescriptive methods should integrate some ‘leeway’ for taxpayers (in the context of prescriptive approaches to taxation) and contracting parties (in respect of regulated price terms). A compromise solution is to legislate the use of regulated prices as a *safe harbour* or to make administratively set prices *rebuttable* by the taxpayer or the contracting party.⁵¹ This leeway should be skilfully framed in relatively narrow terms, so as to preserve the effectiveness of prescriptive approaches. Accordingly, the price of opting out should be set high, for example, by establishing cumbersome documentation requirements and the risk of lengthy audits for those who prefer to be taxed based on actual transaction prices or to depart from regulated price terms.⁵²

Second, prescriptive pricing should not be a matter of administrative discretion. Its terms—i.e. the pricing formula used—must be set in law, made fully transparent, and made subject to public scrutiny. In particular, there should be no room for ad hoc adjustments to quoted prices, which would provide scope for corrupt deals and manipulation, as discussed above. Instead, prescriptive pricing should integrate simplified adjustments that apply automatically through a pricing formula, with no room for administrative discretion—as exemplified in [Section III.A](#). In all cases, the regulation of price terms should be accompanied by tightened transparency and disclosure requirements in commodity trading. Key efforts in this direction are being pursued within a number of policy frameworks and initiatives.⁵³

Third, the price formula should be grounded in market data. This requires technical expertise and inside knowledge. Unless the government has credible information on key cost and price variables through its own state-owned operation, the scheme should be set and specified in consultation with the private sector. In Norway, for example, the Petroleum Price Council (PPB) collects information from a variety of sources, including companies, when setting norm prices, and has meetings with the companies before the final norm price is set.⁵⁴ This approach brings back price oversight and regulation, but within the framework of public–private models of supply chain governance, in a multi-stakeholder setting.

⁵⁰ See, e.g., Raymond Fisman and Shang-Jin Wei, ‘The Smuggling of Art, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques’, 1 (3) *American Economic Journal: Applied Economics* 82 (2009); Shah et al, above n 3.

⁵¹ See Alexander Ezenagu, *Safe Harbour Regimes in Transfer Pricing: An African Perspective*, ICTD Working Paper 100 (International Centre for Tax and Development, 2019), at 22, discussing the best design of safe harbour regimes for developing countries.

⁵² *Ibid.*

⁵³ See, in particular, EITI’s targeted efforts on commodity trading transparency and the OECD Thematic Dialogue on Commodity Trading Transparency.

⁵⁴ Norway, Ministry of Petroleum and Energy, Petroleum Price Board and the norm prices, <https://www.regjerin-gen.no/en/topics/energy/oil-and-gas/petroleum-price-board-and-the-norm-price/id661459/>, visited 19 August 2022.

Questions arise, however, regarding the feasibility of such a multi-stakeholder approach in the context of weak countries with limited or no bargaining power vis-à-vis investors and limited/corrupt governance. In such contexts, MNEs may have few incentives to cooperate with regulators in setting fair market prices when information asymmetry favours the company. Furthermore, private–public interaction in commodity pricing raises concerns of interest group politics and potential corporate capture of public policy. Proximity ties in public–private interactions, in particular, may favour corruption-prone solutions and self-interested objectives. One way to address these concerns is to facilitate a three-way dialogue that includes independent expert advice from academia or reputable pro-development mediators from regional or international organizations, including by leveraging technical assistance programmes.⁵⁵ These mitigation strategies call for a richer set of hybrid public–private forms that involve triangular and transdisciplinary solutions.

The techniques outlined above seek to strike a balance between simplicity of administration and market needs. By calibrating prescriptive elements and flexibility, they frame prescriptive methods in ways that minimize interference with market values, yet maintain a rule-based design.

C. Limits to the approach

The approach faces limits in a number of significant respects, as discussed below—but they are not insurmountable.

Prescriptive pricing is not relevant in all contexts, for example, concerning falsely described goods, or over-/under-shipment—when export products are misclassified to avoid the application of proper reference prices. Yet it remains the most direct policy response against a core form of mispricing, namely, over- or under-invoicing of goods.

Furthermore, prescriptive schemes typically refer to publicly quoted prices on commodity exchanges, assuming that they are less prone to manipulation than transaction prices. However, these reference prices could theoretically be manipulated as well.⁵⁶ It is important to stress, however, that there is little systematic evidence to support the view that commodity reference prices are massively distorted, in the mid to long run,⁵⁷ even if analysts tend to agree that financial investors can exert an influence on commodity price volatility in the short term.⁵⁸

Finally, reliable reference prices exist for most internationally traded commodities,⁵⁹ but not all. However, for those few commodities that lack reference prices,⁶⁰ price benchmarks can be administratively construed on the basis of administrative data, including customs data and tax returns.⁶¹ When there are concerns that customs values are distorted all through, notional export prices can still be administratively set on a cost-plus or resale-minus basis⁶²—options that raise more complex methodological issues.

⁵⁵ See, in this direction, Ezenagu, above n 51, at 24.

⁵⁶ Some commentators question the price discovery role of commodity exchanges, particularly since the role of financial investors has become more prominent in commodity derivatives markets. See, e.g., UNCTAD, *Price Formation in Financialized Commodity Markets: The Role of Information* (New York and Geneva: United Nations, 2011). Traders may also engage in manipulation. See Stephen Craig Pirrong, 'The Self-Regulation of Commodity Exchanges: The Case of Market Manipulation', 38 (1) *The Journal of Law & Economics* 141 (1995).

⁵⁷ See, e.g., Hans R. Stoll and Robert E. Whaley, 'Commodity Index Investing and Commodity Futures Prices', 20 (1) *Journal of Applied Finance* 7 (2015) and Dwight R. Sanders and Scott Irwin, 'A Reappraisal of Investing in Commodity Futures Markets', 34 (3) *Applied Economic Perspectives and Policy* 515 (2012).

⁵⁸ For a review of different positions, see IATP, *Excessive Speculation in Agriculture Commodities. Selected Writings from 2008–2011* (Institute for Agriculture and Trade Policy, 2011).

⁵⁹ Benchmark prices exist for most base/precious metals, crude oils, and bulk commodities in the agricultural trade.

⁶⁰ This is the case, for example, for some non-metallic industrial minerals or in the case of rough diamonds.

⁶¹ For example, base values can be derived from customs microdata using a variety of statistical tools such as percentiles (e.g. interquartile range), simple and weighted average, and the median (Carbonnier and Mehrotra, above n 3).

⁶² Under Brazil's transfer pricing laws, this approach is used on a transactional basis, in order to determine the deemed arm's length price in transactions between related parties. See United Nations, above n 34, Part D.1. Brazil Country Practices.

IV. PRESCRIPTIVE METHODS IN HISTORICAL PERSPECTIVE

The regulatory tools and approaches discussed here are situated in a longer history of commodity price regulation, but go beyond it by embracing more flexible, market-oriented configurations. It is useful to briefly recall such previous efforts at controlling commodity prices, before considering how the proposed prescriptive options move beyond previous experiments.

A. Previous efforts at regulating commodity prices

Price intervention was for long the rule, rather than the exception, in commodity markets—until quite recently, in fact. As briefly discussed below, most efforts at stabilizing or sustaining prices, whether domestic or international, have failed. This highlights the need to move beyond old-style attempts at controlling commodity markets and towards more flexible, inclusive forms of control.

The international community attempted to set multilaterally agreed principles and procedures for the regulation of international commodity prices in three main negotiating settings: negotiations leading to Chapter VI of the Havana Charter, discussions during the 1954–1955 review of the General Agreement on Tariffs and Trade (GATT 1947), and UNCTAD's Integrated Programme for Commodities (IPC).⁶³ The stated objectives of the special regime for commodities enshrined in the Havana Charter and the GATT 1947 variously reflected producers' and consumers' concerns.⁶⁴ The normative underpinnings of UNCTAD's IPC can be found in the quest for a New International Economic Order, geared towards establishing more equitable relationships between developing and developed countries.⁶⁵ None of those negotiating forums brought lasting results. Yet, in the interim, they helped define a set of substantive and procedural disciplines that commodity agreements should conform to.⁶⁶

In exchange with and against the background of such negotiations, countries entered into a number of intergovernmental commodity agreements (ICAs). In their most mature (post-Second World War) form, such arrangements consisted of open, multilateral treaties, with equal representation of consuming and producing countries (dual-interest ICAs). They operated in five commodity sectors: sugar, the International Sugar Agreement (ISA); coffee, the International Coffee Agreement (ICoA); wheat, the International Wheat Agreement (IWA); cocoa, the International Cocoa Agreement (ICCA); and natural rubber, the International Natural Rubber Agreement (INRA).⁶⁷ Some arrangements continued a tradition of price intervention tracing back to former colonial administrations (in cocoa, for example), while others were agreed in the context of state trading and government-to-government sales (the example of wheat).⁶⁸ They operated through output and/or export quotas (ISA and ICoA, in part the ICCA), buffer stock intervention (ICCA and INRA), and price floors/ceilings embedded in

⁶³ For a detailed assessment, see Musselli, above n 1, at 110–47.

⁶⁴ *Ibid.*, at 129–31 and 133.

⁶⁵ For an insightful overview, see Robert L. Rothstein, *Global Bargaining: UNCTAD and the Quest for a New International Economic Order* (Princeton, New Jersey: Princeton University Press, 1979).

⁶⁶ They included principles of multilateralism, transparency, and consumer–producer cooperation. For a discussion, see Musselli, above n 1, at 128–47.

⁶⁷ Stabilization provisions were also enshrined in plurilateral agreements on bovine meat and dairy products within the GATT framework. The agreements were extended and renewed several times. For an overview, see Musselli, above n 1, at 39–51 and, from the same author, 'La régulation des cours et des marchés des produits de base: vers une nouvelle architecture internationale?', 3 *Journal du droit international Clunet* 903 (2012). See also Richard N. Gariepy, 'International Commodity Agreements', 25 (3) *International and Comparative Law Quarterly* 677 (1976); James E. S. Fawcett, 'The Function of the Law in International Commodity Agreements', 47 *British Year Book of International Law* 157 (1970); Kabir-Ur-Rahman Khan, *The Law and Organization of International Commodity Agreements* (The Hague: M. Nijhoff, 1982); Kenneth Klein, 'International Commodity Agreements', 6 *Georgia Journal of International & Comparative Law* 275 (1976); Paul Donovan Reynolds, *International Commodity Agreements and the Common Fund: A Legal and Financial Analysis* (New York: Praeger, 1978); Mohamed Bennouna, 'Le droit international relatif aux matières premières', 177 *Collected Courses* 103 (1982); B. S. Chimni, *International Commodity Agreements: A Legal Study* (London: Routledge, 1987).

⁶⁸ OECD, Working Party on Agricultural Policies and Markets, *An Assessment of Commodity Agreements for Commodity Price Stabilisation*, TAD/CA/APM/WP(2010)36/FINAL (19 May 2011).

multilateral sale contracts between governments (the IWA).⁶⁹ Their stated price objective was price stability. However, in practice, it was difficult to separate the price stabilization dimension from concerns about the level at which prices ought to be set.

Multilateral intervention in commodity prices coincided with, and was in part motivated by, the drive towards commodity cartelization in key extractive industries in the 1960s and 70s. Stimulated by the success of the Organization of Petroleum Exporting Countries (OPEC), formal (as opposed to private) commodity cartels were established in a number of key industries, including copper, bauxite, iron ore, mercury, lead, and tungsten, in addition to petroleum.⁷⁰

In producing countries, dual-interest ICAs and cartel-type arrangements complexly coexisted with domestic policies to sustain and stabilize producer prices. Price fixing was an essential feature of the export monopoly marketing boards in English-speaking African countries—managing the external (and often internal) trade of export cash crops like cocoa, coffee, cotton, tea, palm oil, and groundnuts. In the former French African colonies, stabilization funds (*caisses de stabilisation*) administered official schedules of prices, costs, and margins throughout the marketing chain, without engaging in the trade.⁷¹

However, as mentioned, virtually all such arrangements were eventually terminated or fell apart, in some cases quite abruptly.

Most of the formal cartels (apart from OPEC) were unsuccessful in their attempts to sustain prices above the market level, due to cheating on the part of cartel members or because of highly elastic demand and limited room to raise prices above market thresholds.⁷²

The operation of ICAs was fraught with difficulties.⁷³ Eventually, all five agricultural price-stabilizing ICAs either collapsed or lapsed between 1985 and 1999, on account of technical and/or political problems. Technical problems arose from the difficulty to counter long-term or cyclical factors by means of price intervention.⁷⁴ There were also complications in determining the long-term price trend around which prices are stabilized.⁷⁵ Politically, it was difficult to coordinate the conflicting interests of the parties to the stabilization agreement, faced with strong incentives to renege.⁷⁶

The dismantlement of ICAs occurred in parallel with the demise of state-controlled marketing in several commodity-producing countries. Through the 1980s and 1990s, all but a few marketing boards were dismantled or deprived of their trading privileges in Africa, in some contexts almost overnight.⁷⁷ Reform was driven by external forces—institutional lenders' structural adjustment programmes. Yet, it also reflected the weaknesses of state marketing institutions that had become 'large bureaucracies, influenced by politics, and increasingly inefficient in their designated functions'.⁷⁸

⁶⁹ For a comprehensive review, see Christopher Gilbert, 'International Commodity Agreements: Design and Performance', 15 (5) *World Development* 591 (1987).

⁷⁰ Musselli, above n 1, at 48–49. For a review, see Carmine Nappi, *Commodity Market Controls* (Lexington, Mass.: D. C. Heath, 1979) 103–175; Robert S. Pindyck, 'The Cartelization of World Commodity Markets', 69 (2) *American Economic Review* (1979); Kenneth W. Clarfield et al, *Eight Mineral Cartels: The New Challenge to Industrialized Nations* (New York: Metals Week, 1975).

⁷¹ Musselli, above n 1, at 62–63 and 73–77.

⁷² See Pindyck, above n 70, at 155.

⁷³ See Christopher Gilbert, *International Agreements for Commodity Price Stabilisation: An Assessment*, OECD Food, Agriculture and Fisheries Papers, no. 53 (Paris: OECD Publishing 2011).

⁷⁴ Cannen M. Reinhart and Peter Wickham, *Commodity Prices: Cyclical Weakness or Secular Decline?* IMF Staff Papers 41(2) (1994).

⁷⁵ See Christopher Gilbert, 'International Commodity Agreements: An Obituary Notice', 24 (1) *World Development* 1 (1996).

⁷⁶ Paul Cashin, C John McDermott and Alasdair Scott, 'Booms and Slumps in World Commodity Prices', 69 (1) *Journal of Development Economics* 277 (2002); Gilbert, above n 73.

⁷⁷ Irfan ul Haque, *Commodities under Neoliberalism: The Case of Cocoa*, G-24 Discussion Paper Series 25 (United Nations, 2007)

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⁷⁸ *Ibid*, at 8.

B. Prescriptive approaches revised

The regulatory tools and approaches advocated in this article are certainly less ambitious than previous efforts to regulate commodity prices. They do not imply concerted multilateral or even bilateral price action, but rather consist of schemes that can be unilaterally applied by countries with limited financial and administrative capacity—assuming that their domestic sovereignty in this area is unconstrained. Furthermore, they essentially constitute anti-abuse measures, or safeguards against the most prominent forms of mispricing, rather than price support/stabilization schemes. In this way, they do not interfere with market prices, but rather aim at enforcing them. Finally, they are embedded in more complex multi-stakeholder and transdisciplinary settings than in the past.

Ultimately, the prescriptive policy options discussed here promote a hybrid paradigm, combining insights from interventionist and liberal approaches. They are typically formulaic and mechanical in implementation and in this respect, share features with certain old-style market intervention techniques. However, their parameters are firmly grounded in market data; they are designed within the framework of public–private models of supply chain governance; they are flexibly used, providing leeway and recourse for taxpayers—made optional or subject to factual rebuttal.

V. REGULATORY SPACE UNDER INTERNATIONAL TRADE AND TAX LAW

Questions understandably arise regarding the legal latitude low-income countries do or do not enjoy to implement the simplified and alternative pricing methods introduced here. Can prescriptive pricing methods be applied unilaterally by developing countries, given their international obligations under tax treaties and international trade law? In public discourse, prescriptive pricing methods are often portrayed as violating rules. In particular, as empirically shown by Brugger and Engebretsen, the ‘epistemic community’ of tax experts ‘operating in and around the OECD’ has consistently dismissed simplified, alternative transfer pricing methods as in breach of established tax rules and principles.⁷⁹ The objection to simplified methods as rule-violating is a discursive policy-level strategy to defend the status quo.⁸⁰ It inhibits objective, critical appraisal of simplified and alternative methods in public discourse and limits governments’ political room for manoeuvre. It is therefore important to reassess whether prescriptive methods breach international trade and tax law. The following analysis encourages a shift in focus away from mainstream public discourses and narratives and towards the actual formal sources of international economic law. It draws attention to regulatory constraints and space under international trade rules established under the World Trade Organization (WTO) law and international tax law.

Before presenting our analysis, two caveats are in order. First, the assessment is limited to international trade and tax law, which does not allow for a complete picture of the legality of prescriptive methods. Indeed, the viability of such methods is bound to turn upon any relevant treaty obligations side by side with existing contractual and regulatory arrangements, including legislative stability provisions and contractual stabilization clauses. The legal context is more complex than the scope of our analysis, involving different and combined sources of law and the specificity of each contractual and legal context.⁸¹ Second, while our trade law analysis is

⁷⁹ Epistemic communities ‘are technocratic, knowledge-based networks of professionals with recognized expertise and competence in a particular domain’ (Brugger and Engebretsen, above n 2, at 7). In tax matters, the notion refers to a transnational expert community consisting mainly of not only senior tax professionals based in tax authorities and finance ministries but also tax lawyers and accounting experts.

⁸⁰ Brugger and Engebretsen, above n 2.

⁸¹ Jola Gjuzi, *Stabilization Clauses in International Investment Law: A Sustainable Development Approach* (Cham, Switzerland: Springer, 2018) 184, discussing the legality and effect of stabilization clauses.

grounded in applicable WTO rules, our analysis of international tax law is more general and partly speculative. It does not assess host states' power to regulate under the applicable tax treaties, which would make the analysis rigorous but country-specific. Instead, it makes more general remarks on the matter based on model tax treaties (soft law) and doctrinal and jurisprudential contributions. In doing so, it sheds light on a set of important aspects to be considered when assessing the legality of prescriptive methods under bilateral tax treaties.

A. International trade law

Under international trade law, relevant issues arise regarding customs valuation and price support.

The provisions of the WTO Agreement on Implementation of Article VII of the GATT 1994 (Customs Valuation Agreement) may limit valuation methods based on reference prices, but mainly regarding imports.⁸² On the export side, countries enjoy more flexibility, but are still subject to the general disciplines of Article VII of the GATT 1994, covering imports and exports.⁸³ GATT Article VII establishes general principles for customs valuation, without mandating any specific method. Generally, Article VII:2 of the GATT sets that the customs value should be based on the 'actual value' of the good, or of like merchandise, and should not be based on arbitrary or fictitious values. This provision has been interpreted by some members as prohibiting use of indicative, normal, or official prices for customs valuation purposes.⁸⁴ However, the text of Article VII:2 only provides expressly for 'arbitrary or fictitious values'.⁸⁵ It follows that indicative, normal, or official prices are excluded as a basis for valuation if 'arbitrary or fictitious'. The question remains as to their permissibility if grounded in market data—for example, quoted prices or base values derived from previous trade transactions. GATT practice is not conclusive in this respect.⁸⁶ Also, note that Article VII contains a definition of 'actual value' that comes close to notional concepts of value: the 'actual value' should be the price at which a good is sold or offered for sale 'in the ordinary course of trade under fully competitive conditions'.⁸⁷ While the Interpretative Note Ad Article VII provides expressly for the presumption that invoice prices may represent the basis for establishing 'actual values' for customs valuation purposes,⁸⁸ it does not explicitly rule out the use of market-based price benchmarks as a proxy for competitive market prices. Overall, there is some ambiguity regarding the valuation rules for exports, also because export transactions are recorded, in most cases, for recording purposes only, without substantive revenue implications.

Turning to subsidies, use of reference prices could theoretically trigger price support disciplines. However, this is unlikely in practice as long as the reference prices are based on market parameters. Under WTO law, the critical aspect is the level at which administered prices are set relative to market prices—with the difference possibly counting as trade-distorting support.⁸⁹

⁸² For a detailed discussion, see Sheri Rosenow and Brian J O'Shea, *A Handbook on the WTO Customs Valuation Agreement* (Cambridge: Cambridge University Press, 2012) 25.

⁸³ GATT Article VII, para. 1.

⁸⁴ GATT Analytical Index (pre-1995), Commentary to Article VII, at p. 260.

⁸⁵ While the text of the Article explicitly refers to imports only, its disciplines are relevant in respect of exports as well, since under GATT Article VII, para. 1, the parties undertook to give effect to the general principles set forth in the following paragraphs of the Article in respect of exportation as well.

⁸⁶ The Panel Report on *Exports of Potatoes to Canada* examined the issue, but did not consider that the provisions of Article VII were relevant in the context of its examination (L/1927, adopted on 16 November 1962, 11S/88, 93, para. 16).

⁸⁷ GATT Article VII:2(b). Cf the Brussels Definition of Value (BVD)—a notional valuation system, under which a normal market price was defined as 'the price that a good would fetch in an open market between a buyer and seller independent of each other'.

⁸⁸ See Art. VII of the GATT, Interpretative Notes 1 and 4 Ad Para. 2.

⁸⁹ Under WTO rules, price support is assessed differently for different legal purposes. Cf the WTO Agreement on Agriculture, Annex 3, para. 8 and definition of support under the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement) (e.g. Article 14 (d)).

Use of reference prices and margins does not raise price support issues in principle, if market-based. When reference prices are used for tax assessment purposes only, the issue at stake is whether the tax scheme can affect competition and international trade.⁹⁰ The topic deserves more in-depth analysis in context, derived from factual situations.

Some constraints may arise from the requirement to use ‘arm’s length’ prices when assessing the tax value of transactions between related parties, as enshrined in the WTO Agreement on Subsidies and Countervailing Measures.⁹¹ Pursuant to this principle, related parties should sell goods and services to each other at the prices that unrelated parties would set. Members have the authority to determine their transfer pricing rules, provided that they comply with the ‘arm’s length’ principle. The question, then, is do simplified, prescriptive pricing methods contradict the ‘arm’s length’ principle under international tax law? We argue that prescriptive approaches can be construed as methods for assessing ‘arm’s length’ prices, if grounded in market parameters. Some lines of reasoning are presented below.

B. International tax law

The analysis is similarly nuanced and complex regarding international tax law. As mentioned, we limit ourselves to some general remarks on soft law instruments—the OECD TPGs⁹² and the OECD and United Nations (UN) model tax conventions,⁹³ after which most bilateral tax treaties are patterned.

Prescriptive methods certainly run counter to the ‘arm’s length’ principle requirement as specified in the OECD TPGs. The TPGs provide specific transactional guidance to tax administrators on how to reassess and adjust the transfer prices of commodities traded within an MNE, to bring them in line with ‘arm’s length prices.’⁹⁴ They allow us to determine the price by reference to price benchmarks obtained, for example, from commodity exchanges, but only where such indexes are used as a reference in the trade and subject to a host of comparability adjustments, on a case-by-case basis.⁹⁵ As discussed above (Section II.C), the OECD Guidelines’ requirement for individualized evaluation of real transactions seems to preclude automatic application of simplified adjustments based on reference prices or formula pricing. Note, however, that the OECD Guidelines are not legally binding unless incorporated into national law or enshrined in tax treaties. Furthermore, they are only theoretically a global standard: in practice, they are far from global, in terms of both their creation and application. None of the low-income countries is an OECD member.

The assessment is more complex as regards tax treaty law. Most tax treaties are patterned after the OECD and UN model treaties.⁹⁶ These model conventions deal with the allocation of MNE income (profit allocation rules) under Articles 9 and 7. The two model clauses empower tax authorities to adjust a company’s accounts if they do not reflect ‘arm’s length’ prices (Article 9) and rectify the income and accounts of an MNE permanent establishment to reflect arm’s length prices (Article 7).

Under both the OECD and UN models, Article 9 does not prescribe specific methods for assessing ‘arm’s length’ prices. This aspect is specified in the commentaries to the model treaties.

⁹⁰ For an overview of the interferences between direct taxes and trade, see Christian L. Neufeldt, ‘The WTO and Direct Taxation: Direct Tax Measures and Free Trade’, 59 *Harvard International Law Journal* 1 (2018), Online Journal. See also Alice Pirlot and Henri Culot, ‘When International Trade Law Meets Tax Policy: The Example of Digital Service Taxes’ 55 (6) *Journal of World Trade* 895 (2021).

⁹¹ Footnote 59 to the SCM Agreement.

⁹² See OECD, above n 23.

⁹³ OECD, *Model Tax Convention on Income and on Capital: Condensed Version 2017* (Paris: OECD Publishing, 2017); United Nations, *United Nations Model Double Taxation Convention between Developed and Developing Countries* (New York: United Nations, 2011).

⁹⁴ See OECD, above n 23, paragraphs 2.18–2.22.

⁹⁵ *Ibid.*

⁹⁶ See above, n 93.

The commentary to the OECD Model Convention refers to the OECD TPGs as ‘internationally agreed principles’ that ‘provide guidelines’ for implementation of the ‘arm’s length’ principle.⁹⁷ The commentary to the UN model states that the OECD guidelines contain ‘valuable guidance’ for application of the ‘arm’s length’ principle, but it also refers to the United Nations Practical Manual on Transfer Pricing⁹⁸—a text that gives some consideration to simplified, prescriptive methods.⁹⁹

The pre-2010 version of Article 7 in the OECD model, as well as Article 7 in the UN model, does not detail methods to estimate arm’s length profits attributable to a local establishment. The commentaries specifically refer to the ‘arm’s length principle’ as described in paragraph 2 of Article 7, but do not go further. Also, note that the pre-2010 version of Article 7 in the OECD model, as well as Article 7 in the UN model, explicitly authorizes prescriptive fractional methods for apportioning profits, if permissible under domestic laws (Article 7(4)). The 2010 update of the OECD model tax convention introduced significant changes, in particular by introducing fact-intensive functions, assets, and risk analysis as the basis of profit attribution to the local establishment of an MNE and by deleting all reference to prescriptive fractional methods. However, most tax treaties do not follow the revised OECD approach and still reflect the pre-2010 version of Article 7 in the OECD model or Article 7 of the UN model.¹⁰⁰

To sum up, there is some interpretative scope for use of prescriptive pricing methods under tax treaties that are patterned after the UN and (pre-2010) OECD models. The pre-2010 OECD/UN model conventions do not enshrine the OECD TPGs in treaty language. They allow some leeway to interpret prescriptive approaches as methods for assessing ‘arm’s length’ prices, if grounded in market parameters.¹⁰¹ Hurdles on the way to prescriptive approaches may result from the practice of tax administrations and courts to conform to the OECD Commentaries when interpreting and applying bilateral tax treaties based on the OECD Model. As mentioned, the OECD Commentaries endorse the OECD TPGs as ‘guidelines’ for the implementation of the ‘arm’s length principle’, and such guidelines proscribe the use of standardized price terms and adjustments. Yet adherence to the OECD Commentaries in interpreting tax treaties is a matter of practice; the legal status of the OECD Commentaries in treaty interpretation is a debated doctrinal issue.¹⁰²

VI. CONCLUSION

This article examined formulaic, rule-based pricing methods as a targeted policy response to undervaluation of commodity exports that disadvantages low-income countries. Rule-based pricing methods involve use of commodity price benchmarks for tax valuation purposes and in contracts, with differing degrees of prescriptiveness. As these methods are formulaic and mechanical in implementation, they share features with old market intervention techniques, but yet, are more flexible and market-oriented. Rule-based methods offer a valuable heuristic for

⁹⁷ Commentary on Art. 9, para. 1, OECD above n 93, at 226.

⁹⁸ Commentary on Art. 9, para. 4, United Nations, above n 93, at 251–252.

⁹⁹ United Nations, above n 93, Part D.

¹⁰⁰ Reuven Avi-Yonah and Zachée Pouga Tinhaga, *Unitary Taxation and International Tax Rules*, ICTD Working Paper 26 (International Centre for Tax and Development, 2014).

¹⁰¹ In this direction, see Picciotto, above n 26; Avi-Yonah and Tinhaga, above n 100; Calich and Rolim, above n 48. This view is contested. A review of public statements by accounting and law firms reveals their strong opposition to prescriptive pricing methods as in breach of the ‘arm’s length principle’ (Brugger and Engebretsen, above n 2). The Platform for Collaboration on Tax, which brings together the OECD, the World Bank, IMF, and the UN, argued on commodity pricing and prescriptive approaches that ‘may result in over- or under-taxation’, to the extent they do ‘not consider the actual characteristics of the controlled transaction’ (Platform for Collaboration on Tax, *A Toolkit for Addressing Difficulties in Accessing Comparables Data for Transfer Pricing Analyses* (IMF, OECD, UN, WBG, 2017), at 30.

¹⁰² For a discussion, see Sjoerd Douma and Frank Engelen (eds), *The Legal Status of the OECD Commentaries* (The Netherlands: IBFD, 2008).

countries with limited capacity and are more effective and efficient compared to the common, albeit complex transaction-based valuation systems. Moreover, the use of these methods for valuation purposes can increase revenues for low-income countries and is, in principle, compatible with international trade and tax law, if grounded in market parameters.