*Theme Issue Article*

A Economy and Space

EPA: Economy and Space
2024, Vol. 56(8) 2174–2195

DOI: 10.1177/0308518X231181128
journals.sagepub.com/home/epn
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# State action and inaction in the shaping of value and wealth entanglements: The role of Singapore in the global 'gold chain'

**Lotte Thomsen**
Department of Management, Society and Communication, Copenhagen Business School, Denmark

**Karen P.Y. Lai**
Department of Geography, Durham University UK

**Stefano Ponte**
Department of Management, Society and Communication, Copenhagen Business School, Denmark and University of Johannesburg, South Africa

**Abstract**
Value and wealth creation, capture and protection are important features of contemporary global capitalism. However, global value chains and global wealth chains have been studied mostly in isolation from each other. In this article, we address this limitation by revealing the entanglements of value and wealth in the gold sector. We develop a typology of state action and inaction in value and wealth chains to explain how the state shapes the mobilisation and management of tangible and intangible assets. In our empirical analysis, we chronicle the creation of a 'gold hub' in Singapore that pulls together value and wealth functions, and highlight the various roles of the Singaporean state – as facilitator, deregulator-cum-redistributor, and direct actor. We show that entanglements of value and wealth are shaped by specific configurations of state action and inaction, and are built upon intangible dimensions of legal affordance and cultural practice coupled with very tangible facilities and infrastructure. Our analysis pinpoints the co-dependence of value creation and wealth protection systems as vital to processes of accumulation.

**Corresponding Authors:**
Lotte Thomsen, Centre for Business and Development Studies, Department of Management, Society and Communication, Copenhagen Business School, Dalgas Have 15, 2000 Frederiksberg, Denmark.
Email: Lt.msc@cbs.dk
Karen P.Y. Lai, Department of Geography, Durham University, Lower Mountjoy, South Road, Durham, DH1 3LE, UK.
Email: karen.lai@durham.ac.uk

**Keywords**
Global value chains, global wealth chains, state, gold, Singapore

## Introduction

Examining the entanglements of value and wealth is key to understanding the contemporary features of global capitalism. Yet, value creation and capture, and wealth accumulation and protection, have been studied mostly in isolation in the economic geography and international political economy literatures. Value is generally examined through the analysis of Global Value Chains (GVCs) and Global Production Networks (GPNs) (Coe and Yeung, 2015; Ponte et al., 2019). Wealth is studied through what Seabrooke and Wigan (2014, 2017, 2022) call 'Global Wealth Chains' (GWCs). GVCs are seen as being governed centrally by 'lead firms' that have progressively focused on the specific tasks they excel in, while outsourcing and offshoring others. These lead firms also shape how value is distributed between different firms operating in the chain (Bair, 2009; Gereffi, 1994; Gereffi et al., 2005; Gibbon et al., 2008; Ponte and Sturgeon, 2014). Recently, many lead firms have legally unbundled themselves, for example by locating a financial holding company in one jurisdiction, by moving profit and credit to another, by setting up a legal home to manage assets in a third location, and/or by moving taxable income accrued from these assets into a fourth jurisdiction. Hence, GVC lead firms not only dismantle production activities around the globe, they also tend to disaggregate themselves legally and financially to place profit and (especially intangible) assets in tax havens (Seabrooke and Wigan, 2017). Value creation and appropriation have thus become tied up with how wealth is accumulated and protected. This entails value creation through wealth protection systems that provide additional sources of accumulation – for example, through ways of juridically organising economic activities and taxation, financialised business models and/or the management of expectations focusing on market capitalisation (Seabrooke and Wigan, 2022).

Until recently, GVC research had tended to ignore how value chain operations may be organised to effectively protect wealth (for an exception, see Quentin and Campling, 2018), while GWC work had tended to focus on financial, legal and accounting procedures, without much attention to value chain operations and their role in creating/capturing the value that feeds into wealth accumulation (for an exception, see Seabrooke and Wigan, 2022). In this article, we argue that processes of value creation and capture, and wealth accumulation and protection, are intrinsically entangled and that these entanglements should be an important focus of analysis. In a departure from the tendentially sequential approaches to value and wealth in the extant literatures (i.e. value is first created, then accumulated into wealth), we emphasise the fluidity, coexistence and co-dependence of their entanglements – which are built around combinations of 'tangible' assets (e.g. factories for material production) and 'intangible' assets (e.g. intellectual property rights, legal affordances). The continuing importance of tangible assets and processes has been highlighted by the supply chain disruptions during the COVID-19 pandemic and the war in Ukraine. At the same time, the financialization of global production (Froud et al., 2000) has strengthened the significance of intangible assets that are more easily located in tax havens (Durand and Milberg, 2020). Both tangible and intangible assets thus matter in analysing value and wealth creation, capture and protection.

We offer three specific contributions to these debates: first, building on the categorizations of state roles offered in the GVCs literature (see Horner, 2017; Horner and Alford, 2019; Mayer and Phillips, 2017), we develop a typology of state action and inaction in the shaping of value and wealth entanglements. In such entanglements, we identify three overall state roles: facilitator, (de)regulator-cum-(re)distributor, and direct actor. Second, we highlight the synchronic entanglements of value and wealth chains, rather than a diachronic process of value creation followed by wealth accumulation; these entanglements are not uniform along the value and wealth chain but are unevenly distributed with different characteristics at different stages. Third, despite the increasing importance of intangibles, we pinpoint that tangible assets and processes are still key in shaping these value and wealth entanglements.

To further this research agenda, we analyse the gold sector. Gold is particularly relevant because it is at the same time a commodity, an object of consumption, a store of wealth, and a financial asset – thus providing key insights into how value and wealth are entangled. It also has clear historical connections with various forms of state intervention, such as the management of gold reserves. Gold is an important material input in industries as diverse as consumer electronics, dentistry, aerospace and pharmaceuticals, but is also characterised by important investment and consumer trade dynamics. Although the GVC for gold has been studied extensively, the foci have been mainly on socio-political dynamics of local communities and the environmental impacts of mining (e.g. Bieri, 2013; Geenen and Verbrugge, 2020; Hilson et al., 2019; Le Billon et al., 2020). In our contribution, we incorporate insights on gold jewellery – given that it accounts for some 80% of total global use of gold that flows into consumer markets (Bloomfield, 2017a) – and on gold bullion, as both are important forms of wealth.

Our approach highlights how gold embeds overlapping and sometimes contradictory layers of value and wealth that are culturally specific and may involve illegal activities. As Ferry (2020: 100) aptly observes, '(g)old arrives into contemporary financial spaces as a post-currency, a material sign of integrity and intrinsic value … and also a sign of greed, illicit accumulation and risk'. As we explore how the gold chain 'fans out' into diverse segments and valuation regimes, multiple entanglements emerge – depending on whether gold is engaged with as a commodity, investment hedge, repository of artistic value or cultural distinction. To examine the role of the state in these entanglements, we focus on Singapore, which is a key hub for the 60% of consumer trade of gold that takes place in Asia (Global Trade Review, 2014). While there are no gold mining activities in Singapore, the city-state is establishing itself as a key actor downstream in international gold refineries, bullion production plants, storage facilities and jewellery retail (World Gold Council, n.d.). Studying Singapore can thus deepen our understanding of the use of gold for financing, banking and wealth management.

Our empirical analysis draws upon two types of sources. First, we utilise secondary data from existing academic literature, corporate websites (including jewellery retailers, mining corporations, gold refineries and bullion banks), industry reports and news items to examine the scope and key tendencies of the industry, the emergence of Singapore as a gold hub, and the role that the state has played in these developments. Second, we use primary data collected by one of the authors through fieldwork in 2017. These consist of 20 semi-structured interviews lasting 45 to 90 minutes and conducted in English. The majority of respondents were based in Singapore with a few in Bangkok (with regional operations), and covered a broad spectrum of actors in the gold industry, including domestic jewellery retailers, wholesalers, traders, international agents, pawnbrokers and representatives of business associations (see details in Appendix 1). Interviews focused on gold retail and its relations to other functions in the chain, such as trading, pawning, refinery and banking.

In the following sections, we first review the extant literature on chains and networks and explain our conceptual framing of the roles the state plays in shaping the entanglements of value and wealth. We then present our empirical analysis of the gold industry with specific focus on Singapore. Finally, we conclude with some reflections on how an emphasis on the fluidity and co-dependence of value and wealth, and the vital role of the state in shaping these processes, is central to improving our understanding of contemporary global capitalism.

## Theoretical reflections

### *Value creation and wealth protection*

Scholarship on GVCs has documented how outsourcing and offshoring of lower value-added tasks to lower cost locations have characterised the organisation of global production in the past few decades. The 'lead firms' that arose from these processes are seen as governing GVCs through managing access to global, regional and national/local markets (Gereffi, 1994; Gereffi et al., 2005; Gibbon et al., 2008; Ponte and Sturgeon, 2014). Research on GVC governance has highlighted the set of concrete practices and organisational forms that yield a specific division of labour between lead firms and other actors, and the distribution of value added along the chain (Ponte et al., 2019). Much of the GVC literature traces value creation to the 'differential ability to create profits and/or capture rents from the position of a firm in a chain with a specific governance form and set of interfirm relations' (Havice and Pickles, 2019: 171) and examines distributional dynamics, that is, who is able to create or capture such value and where (Kaplinsky, 2005). We adopt a similar conceptualization of value, while recognising the different ways of examining value that are present in other branches of GVC work.[1] We incorporate the GPN approach into the broader GVC 'family' here. Emerging from the field of economic geography, GPN research posits that the global economy is driven by processes of strategic coupling between various actors in production networks and particular regions (Coe and Yeung 2015, 2019; Henderson et al., 2002). The focus is therefore on how regions create suitable conditions to 'plug in' to GPNs, as well as to enhance and capture value for the benefit of the region, for example, through taxation, upgrading of labour skills and investment in infrastructure.

Although scholars of GVCs have noted the importance of intangible assets, which are characterised by higher entry barriers and generally generate higher value added than tangible assets, they have only recently made an explicit link to wealth protection. Intangible barriers strengthen those that arise from material constraints, such as economies of scale, and thus enhance the power of lead firms over suppliers (Dallas et al., 2019). Durand and Milberg (2020) call for better understanding of intangible assets, including various forms of intellectual monopoly rents, as they create particularly difficult valuation and conceptual problems that can exacerbate tax avoidance and transfer pricing (see Seabrooke and Wigan, 2014, 2017, 2022). An emerging literature on 'Global Financial Networks' (GFNs) has also started to explore the financing and financialisation of firm activities and the importance of previously overlooked territorialities (such as world cities and offshore jurisdictions) in influencing global production (Coe et al., 2014; Haberly and Wójcik, 2022). The focus on financial centres and offshore jurisdictions in GFNs places particular importance on the role of financial institutions and advanced business service (such as law, accounting and consultancy firms) in facilitating the functioning of GVCs (Boussebaa and Faulconbridge, 2019; Parker et al., 2018). These finance and advanced business services firms perform vital roles in the governance of GVCs by articulating financial imperatives, encouraging the reproduction of certain global financial architectures, and shaping the geographical transfer of value (Faulconbridge, 2019; Haberly and Wójcik, 2022; Parnreiter, 2019). They enable corporate clients to make super-profits and retain them through tax strategies and wealth management structures across particular jurisdictions, such that financial centres become governance nodes for wealth transfers. The focus of this work on specific 'places' and on constituent actors (such as states and other institutions) and how they build environments that foster financial activities, practices and relationships (e.g. Hendrikse et al., 2020; Töpfer and Hall, 2018), highlights the significant roles the state can play in shaping the entanglements of GVCs and GWCs.

The GVC literature has reflected on how lead firm strategies and practices are changing as they have become more financialised (e.g. Gibbon and Ponte, 2005; Milberg, 2008; Milberg and

Winkler, 2013; Palpacuer et al., 2005; Purcell, 2018). Such financialisation entails deeper outsourcing of their operations and the minimising of productive capital investment and inventory to improve shareholder value. It also encourages the short-term reorganisation of finances over long-term investment in productive activities, and tax optimisation approaches that move taxable income towards low tax jurisdictions – especially through manipulating jurisdictional placement of value arising from intangible assets (Engelen, 2008; Froud et al., 2000). A more concerted engagement with the dynamics of tangible and intangible asset management led to research on 'global inequality chains' (Quentin and Campling, 2018) showing how inequality is reproduced through the coupled movements of goods towards consumption and money towards the owners of assets (see also Durand and Milberg, 2020).

The GVC work on financialisation chimes with Seabrooke and Wigan's (2017: 4) idea that GWCs are 'used to hide, obscure, and relocate wealth in a manner that breaks from the location of value creation and heightens inequality'. Drawing from the fields of law, taxation and accounting, the GWC literature (Seabrooke and Wigan, 2014, 2017, 2022) has explicitly analysed lead firms' optimisation of tax liabilities and wealth, and the disaggregation of the corporate form. This includes how corporations locate specific activities and entities across jurisdictions to benefit from differentiated legal configurations and protect accumulated wealth. Seabrooke and Wigan also provide further conceptual insights into differences between value and wealth, noting that value is created when raw materials are transformed into products or with increased productivity, while 'wealth needs recognition of what can be legitimated, stored and traded […] An interpretative community provides this legal affordance to create and protect wealth. [Therefore, GWCs can be seen as an assemblage] of contracts and relationships across multiple jurisdictions where the recognition of wealth as a changed state is enabled and guarded' (2022: 3–4). The emergent GWC literature implicitly challenges the prevalent diachronic approach to value and wealth of the earlier GVC literature – that is, the understanding that value is *first* created through GVC operations and *then* accumulated into wealth that is thereafter protected. Instead, it suggests that value is concurrently created through the synchronic organisation of value chain operations and wealth protection measures, rather than a neat distinction between value as a flow and wealth as a stock. Our framing of value and wealth entanglements further contributes to understanding their synchronic dynamics.

In proposing a framework for exploring the interconnectedness of value and wealth, Bair et al. (2023) argue that GVCs and GWCs are not governed by firms as separate or even sequenced processes, but that value creation and wealth accumulation strategies co-evolve and are thus 'entangled'. They identify two analytical dimensions of entanglement: (1) the relative orientation of firm strategy and action towards value creation or wealth accumulation and (2) the relative degree of tangibility/intangibility of assets involved in these strategies and actions. While drawing inspiration from their framework, we also identify scope for refinement. First, their framework tends to assume entanglements as being relatively uniform along the whole value and wealth chain. In our analysis, we show that entanglements have distinctive characteristics at different stages of the value and wealth chain, which present different opportunities and limitations for capture. Second, while their framework emphasises the governing role of lead firms in shaping these entanglements, we argue that the state can play a variety of key roles in shaping how value and wealth entanglements emerge and evolve – including the determination of the relative importance of tangible and intangible assets.

## *State action and inaction in value and wealth chains*

The various roles the state plays in shaping chains and networks have been a focal point of recent research. GFN research has focused on the strategic role of the state in shaping financial markets, actors and practices, with new insights into the complexities of state–firm relations in the economy (Hendrikse et al., 2020; Lai and Daniels, 2017; Töpfer and Hall, 2018). Whether through state-owned banks, sovereign wealth funds, changing financial regulation or economic development policies targeted at the finance sector, there is increasing recognition of a state-finance nexus at work in shaping financial flows and practices from both financial and non-financial firms (Lai, 2023). Likewise, in addressing state capacities, the GWC approach has shown how legal affordances of different jurisdictions enable corporations to protect their accumulated wealth. Still, neither the GFN nor the GWC approaches have developed a typology or analytical framework to make sense of various forms of state action and inaction. The GVC literature has offered some key insights in this regard (Alford and Phillips, 2018; Horner, 2017, Mayer and Phillips, 2017; Neilson and Pritchard, 2011; Smith, 2015; Thomsen, 2007), showing how states can be intentional architects of value chains – such as by entering into trade agreements, by using tariffs and quotas, through the regulation of industries, state ownership and/or by redistributing value through taxation (Bair and Gereffi, 2001; Gibbon and Ponte, 2005). States can also act directly through state-owned enterprises, sovereign wealth funds and public procurement (see Horner, 2017; Horner and Alford, 2019), as well as through more informal routes, such as through personalised and relation-based distribution of resources that firms need to access GVCs or to capture value in them (see Thomsen, 2007).

We identify three main (overlapping) roles of the state in shaping the entanglements of value and wealth chains (summarised in Table 1). While drawing insights from the extant GVC literature – in particular, Gereffi and Mayer's (2006) typology of the state as facilitator, regulator and distributor, and Horner's (2017) and Horner and Alford's (2019) addition of the roles of buyer and producer – we provide a typology that is more relevant to the entanglements of value and wealth. In addition, we argue that the role of the state in forging value and wealth entanglements is constituted not merely through its action, but also through its inaction, for example, by 'stepping back' and not getting involved. While the GVC literature has focused on specific forms of state action, state inaction is also important in influencing the value and wealth strategies of firms, organisations and consumers, with distributional effects that can be progressive or regressive. In Table 1, we identify three main roles of the state in shaping value and wealth entanglements, and differentiate between state action and inaction.

1. The state can be a *facilitator* (Horner and Alford, 2019) – for example, by providing industry-specific financial and discursive support, building skills and knowledge, enacting enabling policies and framework conditions, building infrastructure, providing services and carrying out promotional activities to allow the participation of firms in GVCs (Gereffi and Sturgeon, 2013; Horner and Alford, 2019) and/or their upgrading to higher value-added functions (De Marchi and Alford, 2022). In relation to the entanglements of value and wealth, this role can involve the development of both tangible and intangible assets, such as establishing infrastructure for wealth management in the form of luxury Freeports for storing art, gold and other collectibles (Helgadottir, 2023), and include activities carried out by promotional agencies and statutory boards to attract specific businesses. Conversely, the state may ignore certain industries in favour of others, or overlook particular segments within a value and wealth chain, which are changing market conditions and shaping the participation and strategies of firms and private investment.
2. The state can act as a *(de)regulator-cum-(re)distributor.* In GVCs, Gereffi and Mayer (2006) distinguish the regulative role of the state from that of facilitator by highlighting its restrictive, rather than enabling, policies. However, what we observe in value and wealth chain entanglements includes *de*regulative action such as permitting the operation of non-taxable spaces. This unfolds, for example, through tax exemptions on particular commodities (e.g. gold) and spaces

**Table 1.** A typology of state roles in shaping value and wealth chain entanglements.

| Roles of the state | Examples of state action | Examples of state inaction |
|---|---|---|
| *Facilitator* | • Providing industry-specific financial and discursive support<br>• Building skills and knowledge<br>• Enacting enabling policies and framework conditions<br>• Carrying out promotional activities through statutory boards and government agencies to attract specific businesses or industries<br>• Providing services<br>• Facilitating infrastructure for wealth management | • Ignoring certain industry sectors<br>• Neglecting specific segments of the value/wealth chain<br>• No subsidies and education for skills retraining |
| *(De)regulator-cum-(re) distributor* | • Providing and adjusting regulatory frameworks<br>• Developing trade and tax policy, including exemptions<br>• Providing legal affordances<br>• Protecting patents and intellectual property rights<br>• Providing space for secrecy offerings | • Leaving standardisation to private bodies<br>• 'Turning a blind eye' on grey area conduct |
| *Direct actor* | • Owning or partially owning firms<br>• Procuring goods and/or services | • Not engaging in state ownership<br>• Not setting up public procurement arrangements or defining industrial policy |

*Source: The authors; some categories are adapted from Horner (2017).*

(e.g. luxury Freeports) that lead to tax benefits for the super-rich, or the ring-fencing of intellectual property benefitting certain corporations or individuals. State inaction also has bearings on attracting and retaining 'the wealthy', for instance through a practice that we term 'turning a blind eye' on grey-zone activities. While Horner and Alford (2019) define a distributor role in GVCs in term of the state limiting the unequal effects of markets, we argue that such distributional effects may not necessarily address inequalities but instead exacerbate or create new patterns of unequal outcomes. Given our attention to processes of wealth capture and protection in value and wealth entanglements, we argue that it is important to recognise such distributional (possibly regressive) outcomes and therefore see the roles of *de*regulator and *re*distributor as inextricably connected.

3. The state can be a *direct actor* by carrying out producer and buyer functions (see Horner, 2017; Horner and Alford, 2019). When acting as facilitator and/or (de)regulator-cum-(re)distributor, the state provides (or ignores) certain conditions or processes that enable or prompt other actors to make their own decisions and actions. As a direct actor, the state operates directly in the market in its own capacity through state-controlled ownership of firms or public procurement (Horner, 2017). Thus, the lack of state roles in these domains may also shape value and wealth entanglements especially in economies where firms with varying forms of state ownership or public procurement relationships with state entities are significant. For example, the lack of procurement contracts or the absence of (or withdrawal from) ownership stakes may signal which sectors are deemed less favourable for future industrial policy and government funding support.

In the rest of the paper, we apply this typology to examine how the Singaporean state, through its actions and inactions, influences the entanglements of value and wealth at different stages of the gold chain, and the ways in which these entanglements are built upon specific combinations of tangible and/or intangible assets.

## The role of Singapore in shaping the entanglements of value and wealth in the gold chain

Singapore aims to become the most important gold trade hub based on current and projected rising gold demand in Asia. In 2017, China and India alone accounted for 56% of global gold demand (IRBC, 2019), offering significant opportunities for Singapore due to market proximity (Herzog et al., 2015). The strategic interest of the Singaporean state in the gold sector stems from Singapore's existing role as a prominent financial centre and low-tax platform for regional and global elites, with hub functions for global flows of knowledge, corporate value and wealth optimisation (Beaverstock and Hall, 2016; Lai, 2018). High-end retail and consumption have also grown rapidly in Singapore in recent decades (Henderson et al., 2010; Pow, 2011; Zhang and Yeoh, 2017), resulting in a strong presence of international luxury brands, including jewellery (Thomsen and Hess, 2022).

Often referred to as a 'developmental city state' that exercises 'state capitalism' (Low, 2010), Singapore's role in the gold value and wealth chain is best understood in the context of its political and economic development. Since independence in 1965, the Singapore government has consciously driven economic change in response to shifts in the global economy, a strategic role that is sustained in our analysis of the gold value and wealth chain. Since the 1960s, industrialisation shifted from labour-intensive and export-oriented manufacturing industries, towards higher value-added manufacturing and knowledge-intensive services, such as petroleum refining and semiconductors in the 1990s. Since the 2000s, strategic focus has turned to high-tech and service sectors, including finance, advanced business services and regional corporate headquarter functions, and expanding corporate activities of Singapore-based companies into regional Asian markets (Lai, 2013; Yeung, 2000).

Singapore remains an important node for coordinating financial flows and business activities in Asia, being Asia's largest commodity trading and foreign exchange trading centre, and the world's third largest after London and New York (Lai, 2018; Woo, 2016). Garcia-Bernardo et al. (2017) classify the country as a 'conduit Offshore Financial Center' – alongside Switzerland, the United Kingdom and Ireland. Such centres are differentiated from tax havens; instead, they play a key role in the routing of investment by acting as intermediaries and by allowing tax-free transfers. Singapore has also become one of three leading global wealth management centres, alongside Switzerland and Dubai, reflecting increasing demand from growing Asian economies alongside increased (and often unwanted) scrutiny of other offshore centres, such as Switzerland (Herzog et al., 2015; Long and Tan, 2011). In 2021, Singapore had US$5.4 trillion in assets under management, with 78% of funds originating from abroad (Monetary Authority of Singapore, 2021). Although the government has implemented reforms to align itself with international regulation on transparency, the Financial Secrecy Index (Tax Justice Network, 2020) stresses that the country provides a range of 'secrecy offerings' such as the Private Trust Company setup, various tax exemptions for foreign-sourced income, and Freeport facilities. Freeports are prominent in the gold sector, where they offer discrete vaulting facilities for gold bullion and 'investment grade' jewellery pieces. A number of these features intersect with the valorisation of the precious metal sector, including gold, which since 2021 has been identified as a new growth sector by the Singaporean state (SBMA, n.d.(a)).

In the following sections, we analyse the entanglements of value and wealth in key segments of the gold value and wealth chain: gold mining; gold refining; jewellery production, retail and pawning; and finance, trading and storage (Figure 1). We unpack how they operate and highlight the roles played by the Singaporean state (summarised in Table 2). Moreover, we reflect upon how state actions and inactions shape the ways in which tangible and intangible assets are configured and mobilised in specific ways for value creation and capture, and for wealth accumulation and protection.

## Gold mining

The furthest stage upstream in the value and wealth chain of gold is mining. Although gold is not mined in Singapore, the state's strategy since the early-2000s has involved a strong facilitative role to develop financial services and capital markets. This led to the growing presence of mining companies in the city, drawn by the imperative of raising capital required for mine prospecting and development elsewhere. Singapore's role as an international financial centre makes it attractive for large mining corporations to locate specific functions that enhance value creation and capture. Mining corporations are powerful actors in gold extraction and are engaged in complex processes of value adding in mine development (Bridge, 2004; Pietrobelli et al., 2018). Several large mining companies are listed on the Singapore stock exchange (SGX), some of which (e.g. Wilton Resources, CNMC Goldmine Holdings, LionGold Corp) conduct gold mining in the region.

Singapore's function as a hub for regional headquarters is significant also in relation to facilitating access to specialist financial and business services. The facilitation efforts of the state have contributed to the creation of a significant cluster of firms, including several global mining companies (e.g. Rio Tinto, BHP, Vale, Glencore, Anglo American) that have established their regional offices in Singapore. These drive industry demand for mining-related financing, insurance, legal advice and specialist consultancy services. The growing importance of this cluster is signalled by the establishment of the Singapore Mining Club in 2014 aimed at promoting the development of Singapore

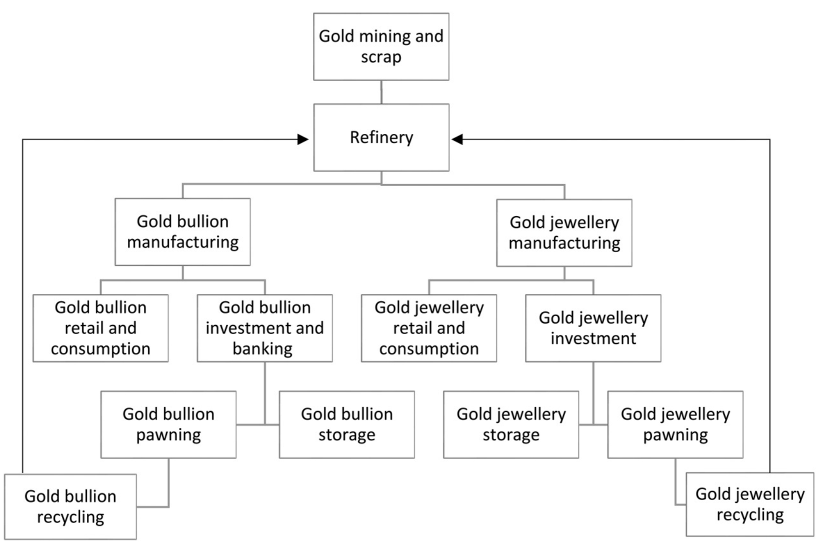


**Figure 1.** The gold value and wealth chain.
*Source: Authors.*

**Table 2.** Roles of the Singaporean state in shaping value and wealth entanglements at various stages of the gold chain.

| Stages in gold chain | Roles of the state: Facilitator | (De)regulator-cum-(re)distributor | Direct actor |
|---|---|---|---|
| *Mining* | State action:<br>• Promoting Singapore as regional hub for mining enterprises<br>• Developing Singapore Stock Exchange for listings<br>• Developing a financial centre to attract regional HQs<br>• Facilitating access to financial and business services<br>State inaction:<br>Negligible or non-discernible | Negligible or non-discernible | Negligible or non-discernible |
| *Refining* | State action:<br>• Attracting refining operation through IE Singapore<br>State inaction:<br>• Negligible or non-discernible | State action:<br>• Providing tax exemptions<br>• Allowing licence-free import and export of IPMs<br>State inaction:<br>• Not regulating gold certification, thus opening up space for private industry standards<br>• 'Turning a blind eye' on problematic certification of gold origins | Negligible or non-discernible |
| *Jewellery production, retail and pawning* | State action:<br>• Emphasising high-end jewellery showcase events<br>• Catering for wealth management of jewellery pieces<br>State inaction:<br>• Neglecting jewellery handicraft and design skills | Negligible or non-discernible | Negligible or non-discernible |
| *Finance, trading and storage* | State action:<br>• Supporting creation of gold hub and bullion market<br>• Developing capital market infrastructure<br>• Providing Freeport and high-security infrastructure<br>• Initiating exchanges and developing physical gold contracts | State action:<br>• Removing reporting requirements on buying, selling, storing gold<br>• Actively allowing license-free import and export of IPMs<br>• Actively allowing license-free domestic gold trade<br>• Providing IPM tax exemptions | Negligible or non-discernible |

*(continued)*

**Table 2. (continued)**

| Stages in gold chain | Roles of the state: Facilitator | (De)regulator-cum-(re)distributor | Direct actor |
|---|---|---|---|
| | State inaction: Negligible or non-discernible | State inaction: • Not monitoring the buying, selling and storing of gold • Turning a blind eye; allowing a veil of secrecy and spaces of exception | |

*Source: Authors.*
IE: International Enterprise; IPM: investment precious metal.

as the pre-eminent regional hub for the management and financing of mining enterprises. Its membership profile and board of directors indicate the range of professions and industry sectors connected to mining activities, such as legal services, private equity, commodities trading, risk and insurance management, and investment banking (Singapore Mining Club, n.d.). The prominence of private equity firms highlights the importance of institutional investors in shaping upstream mining activities through investment in gold mining firms and in commodity markets. Their increasing influence has been known to stimulate mining activities to satisfy institutional investors' yield requirements, investment motives and risk tolerance (de los Reyes, 2017), and to shape the organisation of mining companies in view of managing commodity price risk (Parker et al., 2018).

These elements suggest a strong and active facilitative role for the state in the mining segment of the chain. They also point to the importance of intangible assets and how financial markets and actors can shape decisions on production and value capture/transfer, rather than only determining the location of material (mining) activities. In this case, state action on financial centre development has been important in facilitating the growing concentration of financial and business expertise for mining corporations in the wider Asia and Australia region, and explains how Singapore has been able to attract regional headquarters of gold mining companies without having any upstream activities itself.

## *Gold refining*

In the mid-stream refinery segment of the gold value and wealth chain, the Singaporean state plays mainly the role of deregulator-cum-redistributor, both in the forms of state action and inaction. The state has developed a gold industry niche despite having no mining activities within the country, akin to its successful strategy as a leading oil refining and petrochemicals hub in Asia without having any oil resources (McGregor and Coe, 2021). The extensive involvement in refinery is vital to the state's wider strategy to establish Singapore as a prominent hub in the gold value and wealth chain. In gold refining, the emphasis is on 'investment precious metal' (IPM), for which gold must have the form of a bar, wafer, ingot or coin with a purity of minimum 99.5%, be derived from a refinery included in the London Bullion Market Association's (LBMA) Good Delivery List, and be marked accordingly (Bullionstar, n.d.,a; Global Trade Review, 2014). To meet such standards, Singapore needed the expertise of an established gold refinery, and this involved a range of state actions.

The Singaporean state's deregulative-cum-redistributive role is most clearly articulated through setting up a favourable tax environment. In 2012, the state removed all taxes from the import and sale of gold IPMs manufactured by LBMA-accredited refiners and other approved entities. Not only was this aimed at positioning Singapore as a major hub for physical trading of precious metals, it also created an attractive environment for gold refining (SBMA, 2017(a)). The state also played an active facilitative role through the government promotion agency International Enterprise Singapore (IE Singapore),[2] which successfully attracted Swiss-based refinery Metalor – a global leader in the refinery business. In 2013, Metalor Singapore was established and certified as an IPM refiner and producer by the Inland Revenue Authority of Singapore. Its operations include the refining of mine doré, recycling of precious metal bearing scraps and upgrade of gold bullion, provision of gold products for the jewellery sector and other industries, and the manufacturing of gold bars. This made Singapore well-qualified for handling gold doré as well as scrap gold – notably 50% of the latter comes from Asia (Gold Bars Worldwide, 2014; IE Singapore, n.d.; SBMA, 2017(b); Interviews 1, 2, 4, 7, 8 and 13).

Other than the tangible dimension of gold refining, refineries are also implicated in the intangible certification of gold. The Singaporean state's role is characterised by inaction regarding such certification. By not developing specific regulations for gold certification, it relies on private industry standards such as those established by the World Gold Council, the London Bullion Market Association and the Responsible Jewellery Council. While these standards are widely accepted for securing gold quality and deterring illicit financial flows (e.g. money laundering, trafficking and terrorism financing), an issue with these private industry standards is that they do not apply to the whole chain and thus could make refineries 'blind spots' in it (Bloomfield, 2017a, 2017b). The recycling of gold – up to 37% of global gold supplies – makes certification even more limited in its coverage (IRBC, 2019).[3] The prevalence of industry standards and initiatives rather than state regulation appears to lend itself to secrecy, supported or even shaped by deregulation and state inaction, here manifested as 'turning a blind eye'.

Taken together, these observations underline the strategic importance of the Singaporean state in establishing gold refinery as part of its wider strategy. Through a combination of state action and inaction that embrace private industry standardisation rather than state regulation, tax exemptions, the removal of licensing requirements for import and export of IPMs, and 'turning a blind eye' to problematic certification of gold origins, the Singapore state plays a strong deregulator-cum-redistributor role. This led to conditions favourable to the use of gold trading (to be discussed below) in wealth accumulation strategies of corporations and high net worth individuals.

## *Gold jewellery production, retail and pawning*

Despite the Singapore government's focus on the gold sector, the strategic attention of the state has been quite limited in the jewellery processing and retail segment. It is when finished jewellery enters the financial sphere that the state's facilitative role in value and wealth entanglements is discernible – mainly through promoting showcase events for high-end jewellery and by facilitating the wealth management of art and investment pieces. Many interviewees stressed that skills such as jewellery handicraft and design have been neglected by the state for years (Interviews 1, 2, 3, 5, 7 and 8). They stressed that for jewellery retail, only showcasing activities like fairs are encouraged by the government, while other types of support are limited or non-existent (Interviews 1, 2, 4 and 7), pointing to state inaction in this segment. One large-scale jewellery retailer explains:

> The difficulty of producing jewellery in Singapore has to do with labour law and also skills. We would like to see this being dealt with. It is expensive here so there has not really been production of jewellery since the 1970s. This has basically meant that the qualifications have been lost. The vocational training should be more in focus. (Interview 2)

The shortage of skilled labour in jewellery manufacturing is unsurprising given the shift towards technology-intensive manufacturing and service sectors since the late-1980s. While some high-end and designer gold jewellery and investment pieces are produced in Singapore, mass-market gold jewellery are increasingly outsourced to cheaper processors in the region, which leads (indirectly) to redistributive outcomes in the entanglements of value and wealth. Interestingly, the challenge of skilled labour shortage was stressed by jewellers interviewed as a contributing factor to their diversification beyond jewellery retail into gold investment, the production of 'investment pieces' and pawn broking (Interviews 15,17,18):

> The good thing is that you can do many different things […] when you are in the gold business. […] So now, I do not only make and sell jewellery. I also receive some jewellery from my customers if they need help and money. And I make a business in that way too. (Interview 18)

In this case, it is the *absence* of state involvement – framed as state inaction in our typology – in gold jewellery production that has shaped particular developments in gold retail, investment and pawnbroking. Fine gold jewellery and gold bars serve as investment pieces while also reflecting social status in an increasingly wealthy region. Concurrently, mass-market gold jewellery continues to be in high demand as savings and cultural practice especially relating to life events (births, marriages). Tangible and intangible assets thus matter not only to firms in how they capture value and protect wealth, but also to consumers in their wealth accumulation and protection strategies. While 'simpler' pieces of jewellery are worth literally their weight in gold (which expose people to the market volatility of gold commodity pricing), the types of gold jewellery favoured by the super-rich are valued not only in terms of precious metal prices but also as investment items, pieces of art and collectibles (assessed through criteria such as branding, design and provenance) that are more likely to grow or hold their value over time. With the rise of middle-class and upper-class consumption and the growth of the high-net-worth market in Asia, this segment of gold jewellery is becoming more important as it caters for purposes of investment, insurance, social status and cultural heritage (Hubbis and INTL FCStone, 2018; Thomsen and Hess, 2022).[4]

Pawnbrokers offer different services, including buying and re-selling rejuvenated second-hand jewellery, and money lending. Collaterals provided by customers are valued in the pawnshops with loans at around 70% of the valuation price. If the gold pieces are not redeemed, these are sold as second-hand jewellery to consumers or sent to refineries for smelting (Interviews 15, 16, 17, 18, 19 and 20). Pawn shops play an often under-appreciated role, not only as intermediaries in the recycling of gold jewellery and collectible bars, but also in terms of how they reflect a symbiosis of material and cultural values related to gold, particularly in Asia. Gold jewellery is used for marriage and dowry purposes, as a gift for strengthening social and familial ties, to showcase personal wealth and social standing, and as a storage of wealth to guard against periods of economic hardship – such as during the COVID pandemic (Aljazeera, 2020). High-net-worth consumers (and the rising middle classes to some extent) have the financial capital to buy 'investment pieces' of jewellery that enter the wealth management sphere, while poorer individuals tend to make use of pawning services and/or buy mass-market gold jewellery as 'poor man's insurance' (The Economist, 2020). This has implications for the unequal ways in which consumers protect their wealth or are exposed to commodity risks, depending on whether they tap into gold as a precious metal or as a collectible piece.

## *Gold finance, trading and storage*

The global gold bullion market has its strongholds in large financial centres, including London (where the daily gold price is set), Shanghai, Dubai, Hong Kong and Singapore (World Gold

Council, n.d.). These centres play an important role in the gold value and wealth chain by offering instruments and facilities for gold trading, borrowing and lending, physical bullion distribution and vaulting, and forward hedging of contracts to pre-sell unextracted gold (IRBC, 2019). The Singapore state's deregulative-cum-redistributive role is articulated through state action and inaction. State actions are clear in the 2012 removal of good and services tax (GST; the equivalent of value-added tax) and other taxes directed on gold. Reporting exemptions include those on the import and sale of gold IPMs, and on buying, selling and storing gold (Bullionstar, n.d.,b). State inaction pertains to not monitoring the buying, storing and selling of gold, and 'turning a blind eye' that allows gold to be placed behind a veil of secrecy without reporting requirements. Consequently, the volume of non-monetary gold imports increased by 78% in 2013 alone, with exports increasing by 37% (SBMA n.d.(a); Business Times, 2017). Importantly, GST exemptions also include trading of gold *within* Singapore, which boosted domestic flows of gold among banks, corporations, refineries and consolidators, as well as the imports and exports of IPMs licence-free. Thus, gold travels unhindered within, and also in and out of Singapore (Global Trade Review, 2014; Bullionstar, n.d.,a; n.d.,b).

The state also plays important active facilitator roles by cooperating with the Singapore Bullion Market Association (SBMA), which represents private gold industry stakeholders and has been a key player in laying the ground work for the gold hub strategy since the mid-1990s (SBMA, n.d.(c)). As early as 1994, SBMA proposed excluding GST on precious metals, which was later adopted. IE Singapore is represented on the SMBA Strategic Review Committee, which also includes the World Gold Council (representing the interests of large-scale mining corporations) and Metalor, in seeking to encourage bullion activities in Singapore's gold hub strategy. These initiatives led to a national surge of gold trading and wealth management and the establishment of refineries and bullion operations (Bullionstar, n.d.,a, n.d.,b). In addition to investment opportunities in non-physical gold (e.g. through buying shares in gold mines or funds with gold exposure), Singapore also offers two forms of physically available kilobar gold contracts. These contracts were jointly initiated by national and international state and private stakeholders (IE Singapore, World gold Council and Singapore Bullion Market Association), and reflect the facilitator role of the state in developing capital markets infrastructure and via entities such as IE Singapore and the SBMA. The 2014 SGX contract is aimed at wholesalers and delivered in 25kg lots, and emerged out of cooperation with international and local banks and supported by SBMA and the World Gold Council. The ICE Futures Singapore contract is targeted at the gold jewellery retail sector with smaller lots of 1kg (Bullionstar, n.d,a; n.d.,b; Global Trade Review, 2014). One medium-sized jewellery retailer pointed to this option of buying physical gold within Singapore as her preferred choice due to greater convenience:

> We buy pure gold from the banks here in Singapore according to the listed price. This is very easy and convenient. It is also much easier to buy gold nowadays, and much easier than buying gemstones. The gemstone supply market is very complicated. (Interview 3)

The Singapore Precious Metals Exchange is the first of its kind worldwide to be wholly backed by physical bullion (SGPMX, n.d). The rapid growth in demand for gold (especially since the 2008 global financial crisis) has been partially attributed to the increased attraction of gold as a countercyclical investment and 'safe' asset amidst wider economic and financial uncertainty (Bloomfield and Maconachie, 2020). There has been notable growth in demand for gold from banks, financial institutions and central banks as a tool to manage financial risk and reserves, which has emerged from the state's broader facilitative role in developing financial centre capacity and capital markets. These physical and paper-based instruments represent the forms of financial innovation and responsiveness to market demands that are contributing to Singapore's growth as a gold hub and demonstrate the entanglements of tangible and intangible assets in the gold chain. For instance, jewellery retailers in Singapore generally source gold domestically as 'grains' or so-called 'cast bars' that have gone through little processing beyond moulding (Interviews 1, 2, 3, 4 and 9). Such cast bars are standard-priced and offer an easy and secure solution for buying physical gold to be processed into jewellery. The exchange also handles minted bars that have gone through longer and more expensive processing and are available at a premium, aimed at middle class investors. Exclusive 'collectable bars' are aimed at wealthy investors looking for more-than-material value of gold, such as bars with Chinese New Year themes or the national symbol of the Singapore orchid (Bullionstar, n.d.,a).

In terms of storage, the Singapore Precious Metal Exchange also operates secure vaults for gold serving various international banks after the state removed taxes and licensing requirements. The main storage space is in the high-security Le Freeport facility at Changi Airport. Vaults have direct access to the airport runway and are operated by secure logistics providers (Interviews 1, 2, 8, 10, 12 and 13; see also Global Trade Review 2014). The Changi Airport Group, which operates the airport and runways, is a wholly owned subsidiary of the Ministry of Finance. According to the Tax Justice Network (2020), Le Freeport stores valuables such as gold and art and was set up by a Swiss art dealer. The Freeports' website states that its operations are 'conducted under the strict supervision of various government agencies' (Le Freeport, n.d.; on Freeports more generally, see Helgadóttir, 2023). The development of Freeport facilities in collaboration with government authorities clearly points to facilitative role of the state, combined with a deregulator-cum-redistributor role in carving out such spaces of exception. The role of gold in the wealth protection market, including in the Freeport, has become increasingly important as the physical allocation of gold has risen in the portfolios of domestic and international investors. The presence of gold in physical form also reflects a tendency – not least in Asia – for many investors to prefer it to 'paper gold', since the 'tangible possession of physical gold itself is more trustworthy than a "paper promise" of a bank or government' (Ferry, 2020: 106). In Singapore, this is underpinned by the significance of gold in Asian societies, as a key symbol of wealth, an important object of exchange and investment, and commonly perceived as fluctuating less in price than some national currencies. In sum, through facilitative and deregulative-cum-redistributive actions (and some inaction), the state has carved out a particular niche for Singapore as a gold hub – which has improved options for wealth protection and accumulation strategies for those who can afford it.

## Discussion and conclusion

In this article, we have suggested a typology of state roles in value and wealth entanglements that also takes into consideration whether these roles are active or inactive. We have shown how these roles can be highly interconnected and may change over time as a way of further supporting and shaping value and wealth entanglements – especially when carving out spaces of exception. Our empirical analysis has chronicled the various combinations of key roles that the Singapore state has played in shaping the various entanglements of value and wealth in the gold chain. In mining, Singapore-based gold chain actors have only limited direct managerial and operational involvement in tangible extractive operations, which are commonly located in low-income countries and characterised by harsh working conditions. Instead, they are particularly involved in the provision of finance, insurance, legal advice and specialist consultancy services to mining conglomerates – all activities that mobilise intangible assets. Mining corporations take advantage of tax and financial incentives to create value and protect wealth at the same time. They deliberately locate in Singapore to access state-facilitated financial incentives and tax-freedom, with their value creation strategically interlinked with their wealth management models. The role of the state in providing the conditions for these entanglements is important, but is mainly facilitative. In contrast, the state is more substantively involved in gold refining – not only as a facilitator, but also as deregulator-cum-redistributor. These stem from both state actions in areas such as tax exemptions, removing licensing requirements, and activities of statutory boards, as well as inaction by relying on private industry standards and 'turning a blind eye' to problematic certification. In this entanglement, we find substantial tangible activities related to the physical gold refining activities, but also the intangible processes of private industry certification.

In jewellery manufacturing, retail and pawning, the state role is characterised by inaction in production and labour markets, with only discernible roles in facilitating events and services that cater to the sales and management of collectibles and investment pieces. Again, we find entanglements that have both tangible elements (related to the physical valuation of gold in karat) and intangible elements (valuation based on social distinction, status, insurance and cultural practice). Furthermore, the limited role of the state in promoting jewellery manufacturing has had the effect of encouraging some domestic jewellers to increase their activities in the gold investment space. High net-worth consumers can buy investment pieces of gold jewellery or bullion that enter the wealth management sphere, while pawning services and retail of mass-market gold jewellery are used to store wealth for poorer consumers. This suggests a 'benign neglect' strategy that caters to wealthy consumers in Singapore and the wider region.

In the segment of gold finance, trading and storage, we have shown how the Singaporean state plays a multi-faceted role as facilitator and as deregulator-cum-redistributor. While specific state actions are prominent in areas such as developing capital markets and security infrastructures, providing tax exemptions, and allowing license-free gold trading, inaction such as *not* monitoring the buying, selling and storage of gold have also been important in shaping the entanglements of value and wealth in the gold chain. While gold is used as a financial instrument (i.e. intangible asset) and is traded in Singapore financial markets, physical gold and vaulting infrastructure are also important elements in the wealth protection system. Bullion operations are essential for investment purposes that utilise vaulting and Freeport facilities in the wealth management sphere. These activities involve both intangible and tangible elements in the entanglements of value and wealth. For example, the removal of reporting requirements and taxes from the import and sale of gold IPMs allows gold to flow unhindered and to be placed behind a veil of secrecy that also embraces free domestic flows of gold among banks, corporations, refineries and consolidators within the Singapore gold hub.

In the case of the gold chain in Singapore, the state has not played a direct role (i.e. though ownership or procurement relationships) in shaping value and wealth entanglements, but has instead acted through facilitative, deregulative and redistributional actions. This illuminates the range and scope of state roles that are important in shaping actors and markets even without ownership or direct market transactions. Our empirical analysis of these facilitative and deregulative-cum-redistributional roles reveals regressive results. This observation on distributional outcomes is significant as it draws attention to how state actions may not always address existing inequalities (as often assumed with the term 'redistribution') but could instead exacerbate or develop new patterns of inequality. In our empirical analysis, both state action and inaction have resulted in the development of commodities, financial instruments, expertise and spaces that cater to wealth management and protection of the rich rather than mass consumers or poorer households, with unequal exposure to risks and opportunities linked to gold in its various physical and paper forms. As such, state inaction (especially in its role of deregulator-cum-redistributor) can be as important as state actions in shaping the processes and outcomes of value and wealth entanglements.

Taken together, these observations provide three main contributions to the nascent literature on the entanglements of value and wealth chains. First, we show that the creation and capture of value, and the accumulation and protection of wealth, are intrinsically entangled and are not necessarily sequential – they actually co-evolve and may 'fan out' in different directions depending on market segments and shifting priorities of actors (such as jewellery producers who diversified into gold investment pieces and pawn broking). Second, we argue that the state plays a key set of roles in shaping how value and wealth entanglements emerge and evolve through a combination of action and inaction. Rather than focusing on specific state actions and policies, further research should also attend to state inaction in shaping firm decisions and strategies. A fuller and more precise exploration of state roles also underlies the argument that lead firms are not the only important actors forging specific entanglements of value and wealth. Third, entanglements are not necessarily uniform along value and wealth chains – they can be unevenly distributed and can have distinctive characteristics at different stages, and involve a combination of both tangible and intangible assets and features. Our analysis demonstrates that intangible entanglements of value and wealth, while increasingly important as indicated in the global wealth chain literature, are deeply imbricated with very tangible facilities and infrastructure – as seen in the global gold chain and developments in the Singapore gold hub. Research on global value and wealth chains needs to explore the intersections of these tangible and intangible dimensions in order to develop fuller explanations of modes of value and wealth capture, and their uneven economic and spatial outcomes.

## Acknowledgements

We are grateful for the constructive comments we received from colleagues at the Centre for Business and Development Studies at Copenhagen Business School, the National University Singapore and at a Global Value Chain Network O SASE meeting, as well as from Jennifer Bair and the anonymous referees. We also benefited from critical engagement and discussion during an initial workshop on value and wealth entanglements at Copenhagen Business School. Lotte Thomsen would like to thank Neil Coe and Henry Yeung for their engagement with early ideas and for funding a visiting fellowship at the Global Production Network Centre, National University of Singapore, during which fieldwork for this article was initiated. Karen Lai would like to thank Paul Langley and Jessie Poon for their insights in discussions and acknowledge the support of a visiting fellowship at the Singapore Management University during which ideas were further refined. Finally, we are grateful to all those in the gold industry who offered important information during interviews.

## Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## Notes

1. For example, some GVC scholars use a Marxian approach to value in terms of the ‘socially necessary labour time’ to produce a commodity (see Havice and Pickles, 2019; Quentin and Campling, 2018).
2. IE Singapore is now called Enterprise Singapore after merging with SPRING (another statutory board) in April 2018 (https://www.enterprisesg.gov.sg/about-us/overview).
3. The traceability of gold is further limited by the fact that it is highly fungible. Blockchain initiatives are currently emerging in view of combining fungibility with ethical provenance and traceability (Bloomfield and Maconachie, 2020). Still, the effectiveness and reliability of these different attempts to control gold sourcing remains highly questionable in an industry characterized by massive recycling (see also NYT, 2019).
4. See also Thomsen and Hess (2022) on gemstones and jewellery.

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# Appendix 1

| Respondent No | Type of business/organization, operations, etc. |
|---|---|
| 1 | Large-scale retailer of high-end fine jewellery, Singapore |
| 2 | Fine jewellery Ltd, Singapore |
| 3 | Fine jewellery Ltd, specialty jeweller and retail, Singapore |
| 4 | Specialty jewellery; wholesale and retail, Singapore |
| 5 | Former board member of a jewellery association, Singapore |
| 6 | Jewellery import/export company, Singapore |
| 7 | Board member of a jewellery association, Singapore |
| 8 | Committee member of industry exchange, Singapore |
| 9 | Jewellery wholesaler and trader, sourcing and distributing in the region, incl. Singapore, Bangkok |
| 10 | Jewellery retailer, wholesaler and trader, sourcing and distributing in the region, incl. Singapore, Bangkok |
| 11 | Jewellery trader, sourcing and distributing in the region, incl. Singapore, Bangkok |
| 12 | Large-scale international jewellery brand, retailer and manufacturer. Based in Europe |
| 13 | Former sourcing manager of jewellery brand, retailer and manufacturer. Based in Europe |
| 14 | International agent, Singapore |
| 15 | Pawnbroker, part of fine jewellery conglomerate, Singapore |
| 16 | Pawnbroker, part of lower-market jewellery retail store, Singapore |
| 17 | Pawnbroker, part of lower-market jewellery retail store, Singapore |
| 18 | Pawnbroker, part of fine jewellery conglomerate, Singapore |
| 19 | Pawnbroker, Singapore |
| 20 | Pawnbroker, Singapore |