



The roles of the state in global value chains: an update and emerging agenda

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**The roles of the
state in global value
chains: an update
and emerging
agenda.**

Rory Horner¹

Matthew Alford²

¹ Global Development Institute, The
University of Manchester, UK and

Department of Geography,
Environmental Management and Energy
Studies,

University of Johannesburg, South Africa

rory.horner@manchester.ac.uk

² Alliance Manchester Business
School, The University of Manchester,
UK

matthew.alford@manchester.ac.uk

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Abstract

While understanding the influence of private governance through global lead firms has been a defining feature of global value chain (GVC) analysis, the state has often been implicitly observed as part of the broader institutional context shaping GVCs. More recently, however, the state–GVC nexus has attracted more explicit attention. Drawing on insights from GVC research, this paper highlights four roles of the state within GVCs – as facilitator, regulator, producer and buyer – and outlines key issues on the research agenda in relation to each role. While the facilitator role has received considerable attention and the regulator role is a growing focus, those of producer and buyer are relatively underexplored. The paper concludes that the contemporary reformulation of economic globalisation means the state–GVC nexus is, and will continue to be, especially significant in shaping development outcomes.

Keywords

Global value chains, public governance, state, regulation, state-owned enterprises, public procurement.

JEL Codes

F13, F23, F63, O20.

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1. Introduction

Research on global value chains (GVCs), and related global commodity chains (GCCs) and global production networks (GPNs), has broken with state-centric approaches to understanding development to demonstrate the influential role of global lead firms in shaping development outcomes through their controlling influence on the conditions for participation in such chains (eg Gereffi, 1999; Henderson et al, 2002; Coe et al, 2004; Gereffi et al, 2005). In an era of globalisation, and with a dominant belief in limiting state intervention during the 1990s and early 2000s, GVC research has provided major insights into corporate governance, including typologies of inter-firm relations (Gereffi, 1994; Gereffi et al, 2005; Ponte and Sturgeon, 2013).

While GVCs are widely understood as being comprised of linkages between different *firms* involved in the production of goods and services, a series of analyses has consistently observed that GVCs do not operate in an institutional vacuum (Gibbon and Ponte, 2005; Neilson and Pritchard, 2009). More broadly, the association of a 'retreat of the state' with economic globalisation has been consistently challenged as the state's continuing salience has been demonstrated (Weiss, 2005; Dicken, 2015). Recently, a growing body of research has begun to focus more explicitly on the role of the state within global value chains (see, for example, Smith, 2015; Horner, 2017; Mayer and Phillips, 2017; Alford and Phillips, 2018). Indeed, whether it be work on adapting industrial policy to the context of GVCs, on the intersection of public and private governance or on the under-explored role of public procurement and state-owned companies, the state–GVC nexus is arguably one of the most crucial issues for contemporary research on GVCs.

This paper examines this issue of the role of the state in GVCs. We first discuss the trajectory of GVC research, from breaking with state-centric approaches to development to an increasing exploration of the influence of the state on GVCs. Drawing on a distinction of four state roles in global value chains (Horner, 2017), we then provide insights into the state as a facilitator, regulator, producer and buyer, and outline emerging issues on the research agenda in relation to these four roles. The final section concludes by suggesting that the state–GVC nexus is especially prominent in shaping development outcomes and that nation-states warrant ongoing conceptual and empirical attention in future GVC research.

2. From breaking with state-centric development to the state–GVC nexus

Somewhat ironically, given the focus of this paper, the initial impetus of much research on GVCs was to challenge state-centred understandings of development, including prominent political economy debates on the role of developmental states (Amsden, 1989; Gereffi and Wyman, 1990; Wade, 1990). With a reconfiguration of the relationship between nations, firms and industries under economic globalisation (Gereffi, 1996, p 437), a key insight of GVC research was to highlight the power of global lead firms in shaping development outcomes (Bair, 2005). Thus there was a shift away from emphasis on the influence of the state in using, for example, tariffs and local content rules to shape global production, and towards a focus on the strategies and actions of firms (Gereffi, 1994). As reflected on previously by Tim Sturgeon (2009, p 116):

The shift in focus from the state to the actors in the chain and their interrelationships, and especially to the relative power that some firms are able to exert on the actions and capabilities of their affiliates and trading partners, was immediately accepted and put to use by both practitioners and researchers because it reflected and helped to explain several of the most novel features of the global economy.

In the context of a largely liberalised global economy, and with export-orientation a key focus under the Washington Consensus and its augmented versions, such analytical attention produced considerable insights, especially into how private governance shapes development. GVC research has brought into sharp focus power dynamics in global industries, and the considerable influence of global lead firms in shaping outcomes for better or worse (Gereffi, 2014). Retailers, brands and affiliated local suppliers in buyer-driven chains appeared to possess almost unprecedented influence on development outcomes, yet were often overlooked in what Taylor (1996) calls the state-centric social sciences of economics, sociology and political science.

Although GVCs are often framed as relating to inter-firm linkages, a simmering yet persistent observation is that value chains do not function in an “institutional and regulatory vacuum” (Gibbon and Ponte, 2005, p 84). In one of the earliest iterations of the GCC approach, Gereffi (1994) pointed to an affinity between import-substituting industrialisation (ISI) and export-oriented industrialisation (EOI) development strategies and producer-driven and buyer-driven GCCs, respectively. While influenced by earlier thinking on industrial policy and

developmental states, certain early GCC/GVC literature has tended to under-emphasise the state, given the focus on novel features of the global economy (Horner, 2017, p 4). That said, state-led quotas, tariffs and free-trade agreements have often been observed to play a key role in shaping GVCs (Gereffi, 1999; Gereffi and Bair, 2001; Gibbon and Ponte 2005), as a host of subsequent examples has revealed. In the Indian coffee industry, state policy changes have been shown to directly facilitate GVCs through a range of measures (R&D, extension services, some welfare measures, market information and generic industry promotion), while the regulatory role of the state through the export-controlling Coffee Board has declined (Neilson and Pritchard, 2009), a trend paralleling the coffee and tea sectors in other countries (Gibbon and Ponte, 2005).

To be sure, related research on GPNs, which uses the network rather than chain analogy, has sought to include the state as a non-firm actor within its analytical framework (Henderson et al, 2002; Coe et al, 2004; Coe and Yeung, 2015). Yet self-criticism by some of the key proponents of the GPN framework has acknowledged the relatively limited focus on the state and institutional environment in empirical research conducted under the GPN banner (Coe et al, 2008).

Several calls have been made, however, for greater attention to the state in GVC and related GPN research, calls which directly challenge prevailing firm-centrism and the 'retreat of the state' hypothesis (Smith, 2015; Horner, 2017; Mayer and Phillips, 2017 Alford and Phillips, 2018). These include the need to explore the contingencies of state power and state capacity *vis-à-vis* GPNs (Coe et al, 2008; Mayer and Phillips, 2017), and the need to address the tendency "to neglect the significance of the state in the construction and restructuring of global production networks" (Smith, 2015, p 291). With that in mind, the next section looks in-depth at different roles of the state in GVCs.

3. The role of the state in GVCs: facilitator, regulator, producer, buyer

Within research on the state and GVCs, a range of approaches may be identified. Following Horner (2017), we draw on a distinction of four specific roles: facilitator, regulator, producer and buyer. The four roles explored here (and summarised in Table 1) build on Peter Evans' (1995) custodian, demiurge, midwifery and husbandry typology relating to the state's role in developing new industries in a domestic context, but are adapted to an international context of state engagement with GVCs. We also draw upon a closely related distinction

between facilitative (assisting with the operation of markets), regulatory (mitigating negative externalities arising from market transactions) and distributive (limiting the unequal impact of markets) governance types (Gereffi and Mayer, 2006; Mayer and Phillips, 2017; Alford and Phillips, 2018). We adopt both the facilitator and regulator roles, but discuss the distributive aspect largely within the regulatory sphere. It is fair to say that much research to date has focused on the state’s facilitative role (Horner, 2017), and more recently as regulator of GVCs in conjunction with private initiatives. We will unpack these debates in further depth, and seek to highlight two further roles that have received less attention in GVC research. First, the producer role relates to one of Evans’ four roles – demiurge – whereby the state itself engages in production through state-owned companies. Second, we also consider the state’s role as buyer, through public procurement.

Table 1: Typology of state roles within global value chains

Role	Definition	Examples
Facilitator	Assisting firms in GVCs in relation to the challenges of the global economy	Tax incentives, subsidies, export processing zones, incentives for R&D, implementing and negotiating favourable trade policies, inter-state lobbying
Regulator	Measures that restrict the activities of firms within GVCs	State marketing boards, price controls, restrictions on foreign investment, trade policy (tariffs, quotas), patent laws, labour regulation, quality controls, standards implementation
Producer	State-owned firms, which compete for market share with other firms within GVCs	State-owned companies, eg in oil, mining; these constitute less visible supply chains which may be shaped by state political objectives
Buyer	The state purchases output of a firm	Public procurement, eg of military equipment, pharmaceuticals. These distinct value chains may be shaped by particular economic, social or environmental requirements

Source: Adapted from Horner (2017, p 6).

In what follows, we outline recent progress in understanding state roles in GVCs through this four-fold distinction. We acknowledge that the separation between these roles is not always clear-cut. For example, the facilitator and regulator roles are closely related. What is seen as a facilitative policy can often be associated with a deregulatory agenda (Mayer and Phillips, 2017). Moreover, their implications may vary according to different actors within GPNs, with facilitative policies such as subsidies, for example, potentially being available only to domestic firms. It is also important to recognise the various drivers of state action, and that state policies can be a product of struggles *within* the state, as well as *between* state policies and non-state actors (Smith, 2015). For each of the roles, we also seek to outline issues on the future research agenda, especially for the producer and buyer roles, which have been comparatively overlooked.

3.1. Facilitator: the long-assumed role

Much research on GVCs has implicitly understood the role of the state to be that of a facilitator. Arguably reflecting what seemed to be the dominant reality at the time, Gary Gereffi suggested that “governments are primarily facilitators” (1994, p 100) in export-oriented development. The widespread belief was that little was possible but promoting an attractive business environment for either transnational corporations (TNCs) or local businesses seeking to embed in a TNC’s network (Dicken, 1994, p 123). Moreover, the establishment of the World Trade Organization (WTO) in 1994 shrank the ‘developmental space’ available to states considerably more than did the earlier General Agreement on Tariffs and Trade (GATT), further reducing the state’s role to that of facilitator (Wade, 2003). During this period of neoliberal dominance characterised by market-led approaches and export-orientation, GVCs proliferated as a form of industrial organisation (Mayer and Phillips, 2017).

A facilitator role can occur in quite distinct ways, with a variety of policies and initiatives likely to have a differential impact on various actors. States can play a role in both facilitating their domestic enterprises’ participation in GVCs, either by actively supporting supplier functions within chains controlled by global lead firms, or even by assisting domestic firms to themselves become global lead firms. For example, in relation to the former, in export grape production in northeast Brazil, state agencies have played a role in assisting producers to

overcome technical gaps required by their end markets (Selwyn, 2008). In a range of agricultural value chains, public–private partnerships have sought to influence the relative skills, knowledge and resources of actors and thus how farmers engage with the value chain (Thorpe, 2018). Public funding of R&D has provided considerable support for bio-pharmaceuticals firms in the US (Block, 2008). A facilitator role may also involve incentives to promote outward foreign direct investment (FDI) (e.g. Lim and Teo 2018), as well as to attract such inward investment. Special economic zones and industry-specific infrastructure may be provided in an attempt to encourage firms located within specific territories to participate in the global economy. Moreover, a facilitator role can be directed towards different end markets, which may have quite distinct participation requirements in some industries. A policy focus geared towards promoting supplier engagement in lead firm GVCs can also be subject to criticism for overlooking the darker sides of such incorporation (Phillips 2011), and potentially neglecting opportunities for serving domestic, neighbouring and other Southern markets (Navas-Alemán 2011, Horner and Nadvi 2018). State support to facilitate upgrading of domestic producers into particular value chains can have very uneven distributive implications, given varying capabilities to participate in those chains (Behuria 2018). Clearly, then, considerable variety may be present under the facilitator role regarding who is facilitated and how.

With major international organisations such as the World Bank (Cattaneo et al, 2013), WTO (Elms and Low, 2013), World Economic Forum (2012) and United Nations Conference on Trade and Development (UNCTAD, 2013) all making broad economic development and trade policy recommendations, their main emphasis has also arguably been on a facilitator role. Some research on the deployment of a value chain framework in practice, such as by the World Bank, United States Agency for International Development (USAID), and Australian Agency for International Development (AusAID) in Indonesia, has been linked to enhancing a “business-enabling environment” (Neilson, 2014, p 45). A wider analysis of value chain interventions across major development institutions has similarly placed emphasis on “making markets work” (Werner et al, 2014).

More recently, a variety of research has revisited national industrial policy in the context of GVCs, arguing that such policy must adapt to the era of GVCs and consider the type of GVCs and form of governance required for such policy to be effective (Gereffi and Sturgeon, 2013; Kaplinsky and Morris, 2016). For example, Gereffi and Sturgeon have argued that “there can be no return to the ISI and EOI policies of old” (2013, p 330), with industries not standing alone and competing through arm’s length trade. They have suggested that much focus is now on occupying and moving to higher value niches, rather than on developing

whole industries or even national champions. One of the most insightful contributions to this debate on GVCs and industrial policy (Kaplinsky and Morris, 2016) has articulated the need for different industrial policy in additive as compared with parallel value chains. They believe there is greater scope for deepening linkages, both upstream and downstream, within a territory in additive value chains (eg processing in agricultural value chains). In contrast, parallel value chains involve a different challenge and are said to be more suited to the building of capabilities, such as for assembly or services and marketing (eg China's strength in assembling the iPhone). Thus, Kaplinsky and Morris have argued that strategies of thinning are needed for productive sector policy (a term they prefer over industrial policy) in vertically specialised GVCs, and of thickening in additive GVCs. Another emerging issue relates to green industrial policy, involving structural change in the pursuit of green transformation (Altenburg and Assmann, 2017).

As well as industrial policy, other important issues to understand further in relation to the facilitator role include promoting innovation as well as adapting to the Fourth Industrial Revolution. Building on recent work on the linkages between GVCs and innovation (Pietrobelli and Rabellotti, 2011), and separately on the role of the state in promoting innovation (Mazzucato, 2013), lies the question of the potential for the state to facilitate innovation in relation to GVCs. With considerable industrial evolution likely, industrial policy in a digital context comes into the equation (Wade, 2016) as part of the Fourth Industrial Revolution, which is projected to cause significant disruption to GVCs (Schwab, 2016).

3.2 Regulator: the increasingly visible role

Although the role of the state as a regulator has recently attracted growing interest, the emphasis in much GVC research has been more on the significance of global lead firms governing GVCs, and thus controlling the terms of participation by suppliers, through what is referred to as private governance. Through 'outsourcing governance' and pushing public deregulation, states are said to have delegated certain governance functions to private actors, thus facilitating the emergence and spread of GVCs (Mayer and Phillips, 2017, p 2). Consequently, a preoccupation of GVC research with private governance has emerged (Alford and Phillips, 2018, p 101).

Some research on GPNs has noted the state's regulatory role, such as Coe et al's reminder that "all the elements in GPNs are regulated within some kind of

political structure whose basic unit is the national state” (2008, p 282). The regulatory role has, nevertheless, been noted to vary significantly in accordance with state capacity and institutional legitimacy (Coe and Yeung, 2015, p 48), although these dimensions have not been explored in significant empirical depth. Yeung (2014, p 70) has sought to contest some of the dominant narrative on the influence of developmental states in East Asian industrialisation, arguing that domestic firms have disembedded from state apparatuses and re-embedded in GPNs so that “inter-firm dynamics in global production networks tend to trump state-led initiatives as one of the most critical conditions for economic development”.

A variety of recent research has sought to challenge the decline of the state thesis in relation to regulation, however. The domestic regulatory framework has been highlighted as playing a crucial role in facilitating upgrading, with Ponte et al’s (2014) study of aquaculture suggesting that weak national regulatory capacity related to compliance with food safety standards has been a constraint in Bangladesh, while a robust legal framework has been crucial in Thailand, and increasingly so in China and Vietnam for farm and product upgrading. Even in a context that could be broadly characterised as one of trade liberalisation, trade policy can be a key aspect of public regulation in GPNs (Curran, 2015; Curran and Nadvi, 2015). For example, the European Union’s regime for preferential market access, particularly the rules of origin, has shaped transformations within the Bangladeshi textiles and garments industry (Curran and Nadvi, 2015), while across a wider range of industries tariffs have been found to shape EU market access (Curran et al. 2018). Nevertheless, the limits of labour provisions in EU trade policy have been demonstrated in the case of the Moldovan clothing industry, a regulatory context where national policymakers have sought to liberalise and deregulate labour (Smith et al. 2018). National laws and regulations, by interacting with global corporate practices and civil society strategies, have also been shown to shape labour outcomes in GPNs (Alford, 2016).

A growing body of recent research has acknowledged that private and public regulations are often intertwined, forming what has been termed hybrid governance (Gereffi and Lee, 2016; Bair, 2017; Alford and Phillips, 2018). Public intervention has been argued to play a part in the enforcement of private regulation, with the suggestion that governments could help put in place preconditions to facilitate the enforcement of private regulation, as it can enhance their own regulatory capacity (Verbruggen, 2013). Moreover, some transnational private governance now involves promoting mandatory compliance with public governance, such as in palm oil certification in Indonesia

(Giessen et al, 2016), or in the timber industry in Indonesia and China, with the possibility of considerable benefits if this public legality overtakes sustainability certification (Bartley, 2014). These studies are therefore suggestive of the fact that ‘complementary’ public and private regulation can more effectively address social and environmental conditions in GVCs (Amengual, 2010; Strohle 2017).

Other work has noted that private governance measures can, in certain sectors and country contexts, ‘substitute’ or ‘displace’ public regulations and undermine local civil society initiatives (Bartley, 2005; Fransen and Burgoon, 2017). In light of these ongoing debates surrounding the effectiveness of private governance, in combination with public regulations, in addressing social and environmental conditions in GVCs, we would argue that further empirical research is required to elucidate the particular forms of public–private governance that emerge across global industries and country contexts, along with their distributional implications (Nadvi and Raj-Reichert, 2015; Alford and Phillips, 2018; Schleifer and Sun, 2018).

Indeed, a key issue is how the regulator role can be adopted to shape the distribution of rents or gains within the GVC. Within-country inequality has grown in many countries in the era of GVCs, and has been linked to asymmetries of market, social and political power (Phillips, 2017). Empirical exploration of private and public governance has shown that, while states remain central to the governance of GVCs (Locke, 2013; Locke et al, 2013), the capacity of public–private governance to achieve equitable distributional gains is fundamentally constrained by the sourcing practices of lead firms and the foundational logic of GVCs (Alford, 2016; Alford and Phillips, 2018). We still need to know more, for example, about the possibilities for state governance to promote decent work in GVCs, something which is likely to vary significantly across different regulatory and country contexts and modes of value chain governance (Barrientos et al, 2011; Alford 2016).

The regulatory role in relation to distributional outcomes is particularly pertinent in the light of emerging digital trade and the Fourth Industrial Revolution. Despite the expansion of digital trade, “the role of regulatory frameworks in governing this remains less developed” (Azmeh and Foster, 2016, p 4). Various policy initiatives have been noted in this context – including data localisation requirements, mandatory technology transfers, encryption, censorship and filtering – which can shape or even block market access, and force technology transfer or investment in particular locations (Azmeh and Foster, 2016, p 4). One prominent example is the ‘Great Firewall of China’ and its influence on the rise of firms such as Ali Baba, Baidu, Tencent and TaoBao. With inequality noted as a likely major challenge of the Fourth Industrial Revolution (Schwab,

2016), the role of the state as a regulator shaping distributional outcomes becomes even more important.

Recent changes in trade policy, including a backlash against economic globalisation (Horner et al, 2018), suggest the potential for greater prominence of the state's regulatory role. UNCTAD's (2017) *World Investment Report* notes an increasing trend in investment restrictions or regulations relating to foreign takeovers, compared with the 1990s. Initiatives such as Donald Trump's announcement of steel tariffs and increased protectionism, further raise the issue of the dynamic and shifting regulatory stance of nation-states in relation to GVCs. Following such national socio-political shockwaves, the extent to which the prevailing liberal economic order will continue to exist in the same form remains unclear. This makes paying attention to the state's regulatory role particularly pertinent.

3.3 Producer: the neglected role

The role of the state as a producer, through state-owned enterprises (SOEs), has been comparatively neglected in GVC (and related GPN) research, especially when compared with the latter's significance in the global economy. An oft-cited figure is that state-owned companies account for 10% of the world's GDP (Peng et al, 2016). In the OECD area, SOEs are estimated to account for between 5% and 10% of total economic activity, whether measured by GDP, employment or investment, but in some emerging economies the share may be between 10% and 30% (OECD, 2017a, p 126). Many of the largest firms in the world are state-owned, including 15 of the top 100 non-financial multinational enterprises (MNEs), as well as 41 of the top 100 MNEs from developing and transition economies (UNCTAD, 2017, p 30). Sometimes certain sectors are restricted (e.g. aerospace, railways) for private or national security purposes or to ensure survival of local firms, while many governments (including in the global South) control natural resources, as well as transport and utilities in the global North (He et al, 2016, p 120).

Despite a global trend towards privatisation, along with deregulation and liberalisation, many SOEs have only been partially privatised, with some share of state-ownership remaining. Hybrid SOEs are common, combining different institutional logics. Examples of hybrid SOEs include Brazil's Petrobras and Vale, which comprise high government ownership alongside relative independence (Bruton et al, 2015, p 92). Some research on hybrid firms suggests they may have higher management autonomy and perhaps place less

importance on non-economic objectives than fully state-owned companies (He et al, 2016). States also invest in private firms. For example, the US government took a substantial share in General Motors in the US during the 2008–09 financial crisis, although subsequently the state's stake has been reduced (Peng et al, 2016, 304). Meanwhile, sovereign wealth funds (SWFs) are used as vehicles to invest in economic sectors (PWC, 2015, p 12), such as Temasek Holdings, a Singaporean SWF's investment in Singapore Airlines.

Within the fields of development studies, economic sociology and economic geography, from which the biggest contributions to GVC research have emerged, there has been little focus on state-owned enterprises. SOEs have been noted in the case of China (eg Henderson and Nadvi, 2011, Lim 2018), as have government-linked companies such as Singapore Airlines and Renault (Coe and Yeung 2015, p 47). Yet such research has rarely explored the various forms of outsourcing and governance relationships, which are so prominently focused on in the GVC literature. Instead much of the research on SOEs has largely been from within international business, where a growing interest in such firms has emerged in recent years (see, for example, Cuervo-Cazurra et al, 2014). Such research has probed issues internal to the firm, such as the incentives that managers face (Liang et al, 2015), and the influence of the home-country institutional environment (Estrin et al, 2016).

GVC literature has largely focused on lead firms from the Global North and their suppliers, where SOEs are less prominent than in developing or emerging economies. GVC research needs to adapt to this shifting geography of trade and a context of new, emerging lead firms (Horner and Nadvi, 2018), including recognising that some such firms are state-owned. The OECD (2017b, p 8) reports a vast number of enterprises fully- or majority-owned by the state in China – 51,000. A considerable internationalisation of Chinese firms has emerged following the 1999 'Go out' policy. The share of SOEs in the global Fortune 500, which covers listed companies, grew from 10% in 2005 to 23% by 2014 – driven mostly by the growing size of Chinese companies (Kwiatowski and Augustynowicz, 2016). SOEs are also prominent in other large, emerging economies, such as India (270), and Brazil (134). Yet SOEs are far from absent in Europe, with more than 400 headquartered in the EU (UNCTAD, 2017, p 31). Though not always as large in terms of share of employees or revenues, many firms are owned by regional and local states, for instance in Germany and Sweden (PWC, 2015, 11).

A better understanding of the value chains of SOEs also requires a focus beyond some of the most commonly studied sectors in GVC research, such as agro-commodities, textiles and automobiles. State ownership can be found in

sectors such as mining (eg China National Offshore Oil Corp, Petronas and Vale) and manufacturing (eg Volkswagen, Renault, Airbus), but is also prominent in public utilities (electricity, gas, transportation, telecoms) and financial institutions (OECD, 2017b, p 8). The influence of state ownership needs to be understood in terms of the extent to which such SOEs, including firms with partial state-ownership, are shaped by state political and geopolitical objectives alongside classic economic criteria – potentially affecting their choice of, and the nature of their relationship with, suppliers. Linking back to existing GVC governance debates, a fruitful line of enquiry could examine the particular governance dynamics underpinning SOE-driven global value chains relative to private lead-firm-driven GVCs, including social and environmental regulatory requirements and enforcement of standards.

3.4 Buyer: the hidden role

The role of the state as a buyer in GVCs, through public procurement, is a considerably under-explored issue, despite its significance in the global economy. One estimate, based on a sample across 89 countries, is that the average size of government procurement is between 11% and 12% of GDP, and that it has increased gradually since 1995 (Gourdon and Messent, 2017, p 4). Public procurement is particularly prominent in sectors like education, defence, utilities and public health. Only some procurement is tradable in terms of goods and services that can be supplied across national borders (Gourdon and Messent, 2017, p 7). While “government is often the single biggest customer in a country” (Walker and Brammer, 2009, p 128), this role has often been overlooked not just in GVC research, but also in wider research on political economy. Over a decade ago, Weiss and Thurbon (2006, p 703) stated that: “For all its importance as a policy tool around the globe, the study of public procurement has barely begun”. Recent research has begun to provide insights into public procurement, however, which could lay the groundwork for GVC research to follow.

States acting as buyers, through public procurement, tend to exercise considerable discrimination in terms of who they buy from, particularly in relation to foreign suppliers. Procurement spending has frequently been found to have a lower tendency to involve imports than does private sector procurement (Rickard and Kono, 2014, p 2). Public procurement may be devoted, to varying degrees, to different missions, often justified in the national and public interest. Such factors, which shape discrimination, can include

economic development, social concerns and national security grounds (Evenett and Hoekman 2005).

It is well documented that public procurement has been directed at promoting domestic industries and firms. In the US, government purchasing has been argued to promote national champions by both protecting domestic procurement from foreign competition and seeking to open foreign procurement markets to US suppliers (Weiss and Thurbon, 2006). In terms of the former, the 'Buy American' Act was originally passed in 1933, as part of a response to the Great Depression, and has requirements only allowing domestic end-products (manufactured in the US, and with domestic components costing more than 50% of all). While the Buy American principle helps protect the 'home front' as a legal requirement, there are also informal barriers to foreign suppliers through pervasive Buy American norms (Weiss and Thuborn, 2006, p 713). Examples of US national champions promoted through public procurement include Boeing, IBM, Lockheed, Caterpillar and Motorola (Weiss and Thurbon, 2006, p 704). Weiss and Thurbon (2006) have suggested that a key launch pad for the US computer industry was long-term procurement contracts, citing the fact that over 50% of IBMs' revenues in the 1950s came from government contracts. They have even pointed to data suggesting that 50%–60% of Boeing's sales in the early 21st century were related to government procurement, and that other contractors – including Motorola, Honeywell, IBM, Microsoft and EDS – drew a substantial portion of their revenue from government procurement (Weiss and Thurbon, 2006, p 705).

Government contracting has often been linked with social regulation, with governments frequently attempting to combine two functions: "participating in the market as purchaser and at the same time regulating it through the use of its purchasing power to advance conceptions of social justice" (McCrudden, 2004, p 257; see also Handler 2015). Three types of linkage have been identified: enforcing anti-discrimination law in employment through contract compliance requirements; using procurement to advance distributive justice (often affirmative action in employment); and using it to stimulate entrepreneurial activity by disadvantaged groups (including allocations for 'minority' businesses) (McCrudden, 2004, p 259). Prominent issues that public procurement policies have attempted to address include racial inequality in the US, discrimination against *bumiputera* in Malaysia and aboriginal people in Canada, and ending apartheid in South Africa.

A growing area of interest in relation to the state buyer role relates to green public procurement (GPP), or state purchasing to achieve environmental goals, which grew in the 1990s, particularly at the European and international levels

(McCrudden, 2004, p 257). GPP has been referred to as a “a demand-oriented policy tool to achieve desirable environmental outputs and to promote green services and products by using public procurement” (Cheng et al, 2018, p 771). GPP has been advocated in many countries, especially in the EU (Cheng et al, 2018). A broader interest in sustainable procurement relating to social, environmental and economic aspects has also emerged. It has been defined as “the act of integrating a concern for broader social and environmental impacts within procurement undertaken by government or public sector bodies” (Brammer and Walker 2011, 455). In this regard, social responsibility factors have gained some presence in legislation such as the United States Federal Acquisitions Regulation and through the European Union Directives on Public Procurement.

Despite the inclusion of public procurement in the scope of multilateral trade agreements, including the WTO Agreement on Government Procurement (GPA), it remains an active focus of many governments seeking to address particular national issues and interests. Public procurement is only a plurilateral issue in the WTO, with the restrictions only applying to those WTO members who have agreed to abide by it, and only where they have made market commitments (Gourdon and Messent, 2017, p 6). Public procurement is also one (of many) aims within the Sustainable Development Goals (SDGs). SDG 12, which is to “promote sustainable production and consumption”, includes Target 12.7 – “promote Public Procurement Practices that are sustainable in accordance with national policies and priorities”.

Public procurement is thus very significant across a variety of different geographical contexts, involving key buyers who may be shaped by some similar, but also distinct factors compared to value chains led by private firms - as nascent GVC research has begun to address. For example, Gereffi et al (2013) have explored shipbuilding value chains in the context of Canada’s National Shipbuilding Procurement Strategy (NSPS), which includes aims for procurement, repair and maintenance as much as possible within Canada as part of its goals around Industrial and Regional Benefits. Hughes et al. (2018) show how ethical public procurement in the UK is influenced by its lower profile and consumer reputational risk compared to within the private sector, as well as by the strong influence of the legal context around it, rendering ethical consumption significantly less advanced in the public sector. In the electronics industry, the NGO Electronics Watch seeks to promote human rights by focusing on the leverage that public buyers have over their suppliers (Martin-Ortega, 2018). This buyer role requires continued consideration in future GVC

research, given its empirical significance and the relative lack of attention it has received so far.

4. Conclusion: the state–GVC nexus as an ongoing concern

A rapidly growing body of research suggests that the activities of the state are crucial in a context of GVCs. While the initial body of research on GVCs sought to highlight the role of global lead firms in shaping development outcomes, the state was paid little explicit attention. A host of subsequent research has persistently noted that GVCs do not act in an institutional vacuum. Research on the state in GVCs is increasingly moving beyond arguing that the state matters in GVCs to exploring *how* it matters – as demonstrated through the discussion under the facilitator, regulator, producer and buyer typology outlined here.

An active research agenda emerges across the facilitator, regulator, producer and buyer roles. Industrial policy, or perhaps productive sector policy (following Kaplinsky and Morris, 2016), is increasingly on the agenda once more, raising questions for how local firms and industries can be promoted in an era of globalisation. The highly uneven outcomes and considerable income inequality within countries in the present era render questions of effective public regulation for more socially-just distributive outcomes even more pertinent. The seemingly imminent onset of the Fourth Industrial Revolution only augments the necessity of such a research agenda. The still vastly underexplored roles of the state as producer, through state-owned enterprises, and as buyer, through public procurement, are highly significant phenomena in the global economy warranting increased conceptual and empirical attention.

The state–GVC nexus is at the crux of contemporary issues relating to economic and wider development issues. A backlash against economic globalisation has emerged in the Global North, calling the liberal international economic order into question. While the possibility of an imminent and significant de-globalisation still appears unlikely, attention to the role of the state in relation to GVCs remains highly pertinent. Such work must focus on the differential agencies in shaping GVCs, given that not all states have the same power and capacity to establish and enact the various functions outlined in this paper, in relation to GVCs. It is increasingly apparent that states do not just shape GVCs, but that their policy options are themselves shaped by GVCs, as recent discussions on reformulating the North American Free Trade Agreement (NAFTA) and on the UK's exit from the EU demonstrate. In such a dynamic global context, the centrality of the state and relational dynamic between private

and public actors in GVCs should be recognised and explored even further. We believe such an agenda promises to lend crucial insights into how states, in combination with powerful private actors, can and should govern GVCs in today's global political economy.

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