

Green Capital Accumulation: Business and Sustainability Management in a World of Global Value Chains

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Abstract

Tackling climate change and other environmental crises entails a critical reflection on processes and outcomes that are behind sustainability management by business. Sustainability has become a commodity itself, to be traded, bought, sold and managed like all others. How lead firms in global value chains (GVCs) address sustainability issues has become a key competitive element and a source of value creation and capture – facilitating a process of ‘green capital accumulation’. Sustainability management is emerging as a fourth key capitalist dynamic in addition to cost minimization, flexibility and speed (Coe and Yeung, 2015) – leading corporations to devise new spatial, organizational and technological ‘fixes’ to ensure continued capital accumulation. Public actors and civil society groups can still make a difference, but their strategies need to be informed by the daily practices, power relations and governance structures of GVCs. Sustainability orchestration by these actors is more likely to succeed when: it employs appropriate combinations of directive and facilitative instruments that reinforce each other; improves issue visibility; provides incentives that facilitate the alignment of private and public sector interests; and leverages specific pressure points at key nodes of GVCs.

Introduction

The organizational dynamics of global value chains and production networks (GVCs hereafter) have been driven by three important capitalist dynamics in the past three decades: cost minimization, flexibility and speed (Coe and Yeung, 2015: 4-7). These in turn have led corporations to devise spatial, organizational and technological ‘fixes’ to ensure continued capital accumulation – as new technologies, deregulation and globalization transform the institutional framework within which they operate. In this article, I argue that we are currently witnessing the emergence of a fourth capitalist dynamic that is opening up new

venues of capital accumulation: *sustainability management* – the set of practices that corporations put in place to address sustainability issues. Sustainability management is also reshaping existing spatial, organizational and technological fixes in various ways – including those allowing lead firms to obtain more information from their suppliers.

Current understandings of the role of sustainability management in shaping governance and upgrading in GVCs remain limited. In the business school tradition, the ‘sustainability strategy’ literature has exclusively focused on what happens inside the firm (Orsato, 2009), and especially within transnational corporations. The ‘sustainable supply chain management’ literature provides relevant entry points on supply relations (Seuring and Müller, 2008, Seuring et al., 2008, Seuring and Gold, 2013), but remains descriptive and focused on achieving competitive advantage. The large literature on transnational sustainability governance in political science and international relations provides a rich source of analysis of the complexity of sustainability instruments and actors, but has tended to downplay their interactions with GVC dynamics (for exceptions, see Gale and Haward, 2011, Cashore et al., 2004, Gulbrandsen, 2010). Finally, GVC analysis has not yet satisfactorily incorporated environmental concerns in its effort to explain governance and upgrading dynamics.

I develop two main arguments in this article. First, I show that as powerful firms in GVCs create and extract new value from addressing environmental concerns, they enact what I call ‘green capital accumulation’ – also by squeezing value out of suppliers through sustainability demands. In other words, I argue that one of the key mechanisms which lead firms use to govern GVCs is the strategic management of sustainability. Second, I highlight four key factors that can facilitate public authorities and social movements in orchestrating better sustainability outcomes in a ‘world of GVCs’: using a combination of facilitative and directive tools; enhancing issue visibility; facilitating interest alignment; and leveraging specific pressure points, especially in unipolar GVCs where lead firms are placed in one functional position, exercise high degrees of power and are clearly identifiable.

In the next section, I discuss the features of a GVC-cognizant approach to the orchestration of sustainability. This is followed by an overview of recent changes in the role of business in sustainability governance, with focus on environmental aspects. In the last three sections, I argue that lead firms in GVCs have managed to leverage sustainability management to

achieve ‘green capital accumulation’, and reflect on what this entails in terms of successfully orchestrating sustainability.

A GVC-cognizant approach to orchestrating sustainability

One of the main tenets of the literature on transnational sustainability governance is that actors and institutions involved in it are constantly seeking to assert political and rule-making authority – the decision-making power over particular environmental issues that is accepted as legitimate from specific audiences (Cashore, 2002, Fransen, 2012). This is because they cannot rely on the exclusive authority of the state or a global institution. Sustainability governance discussions also indicate that the emergence of private authority has not led to a wholesale retreat of the state, but to new overlaps between public and private spheres. While private authority has been on the rise, it often applies to areas that were never regulated by the state to begin with. When private authority addresses transnational problems, it can actually enhance state capacity by allowing the state to escape innate constraints placed by territorial borders and to focus more effectively on other areas of regulation. Finally, private authority often needs public authority to establish legitimacy, thus making it difficult to disentangle the two. This suggests that what is normally conceived as private authority in contrast to public authority actually has salient hybrid features (Ponte and Daugbjerg, 2015).

These hybrid dynamics can provide alternative and more flexible venues to address environmental problems – as shown by the rich variety of transnational experiments and entrepreneurial governance initiatives that are being carried out by industry associations and individual corporations, international and local NGOs, and other non-state actors (Andonova et al., 2009, Bäckstrand, 2008, Hoffmann, 2011). Hybrid instruments can overcome two of the main problems that have plagued inter-governmental treaty formation: path dependency and institutional inertia. Yet, they can also facilitate self-interest for individual actors to achieve particularistic goals. And state capacity and inter-governmental action are still crucial in facilitating the emergence, implementation, and enforcement of sustainability governance. Successful public support (local, national and international) is more likely to happen when norms, objectives, and interests align between the public and private spheres (Gulbrandsen, 2014).

One of the main concerns in discussions on sustainability governance remains how to create some coherence in the fragmentation of governance instruments in the environmental field and build meta-governance instruments (Derckx and Glasbergen, 2014, Zelli and Van Asselt, 2013). Thus, much attention is now being dedicated to the possible mechanisms and strategies that nation states and international organizations can use to shape environmental outcomes. The concept of *public orchestration* provides a useful tool to address the perceived transnational governance deficit. Public orchestration refers to a wide set of mechanisms, some of which are ‘directive’ and others ‘facilitative’ that public authorities can put in place. Directive orchestration relies on the authority of the state and international organizations and seeks to incorporate private initiatives into its regulatory framework, e.g. through mandating principles, transparency, and codes of conduct. Facilitative orchestration relies on softer instruments, such as the provision of material and ideational support, in order to kick-start new initiatives and/or to further shape and support them (Abbott and Snidal, 2009a, Abbott et al., 2015, Lister et al., 2015, Hale and Roger, 2014, Henriksen and Ponte, 2018, Schleifer, 2013).

Public orchestration happens when states or intergovernmental organizations initiate, guide, broaden, and/or strengthen transnational governance by non-state and/or sub-state actors. It can combine a variety of instruments, including: (1) intermediation, when a governor uses intermediary actors to achieve governance goals (soft instruments, indirect influence); (2) regulatory hierarchy (hard instruments, direct influence) (Abbott et al., 2015); (3) collaboration (soft instrument, direct influence); and (4) delegation (hard instruments, indirect influence) (Green, 2013). Public orchestrators may thus combine straight regulation (or the threat of future/stronger regulation) with collaboration, delegation, intermediation and other hybrid mechanisms, such as placing their own representatives in key positions in intermediary organizations (Henriksen and Ponte, 2018), or harnessing civil society pressure and consumer influence, to achieve specific environmental benefits. What we lack so far in existing public orchestration approaches is an understanding of the GVC factors that shape sustainability governance and a clearer set of options on how this knowledge can be used strategically and with what limitations.

In order to extract value (by which I mean ‘exchange value’ in this article) and maximise capital accumulation, lead firms in GVCs are seeking to reduce cost/capability ratios (rather than simply minimizing costs) in dealing with their suppliers (Coe and Yeung, 2015). They

are also sourcing from fewer, larger suppliers and transferring the costs of inventory to them (Gereffi, 2014, Gibbon and Ponte, 2005). Because they operate in a global economy that is ever more uncertain and unpredictable, due to fast technological change, financial instability and climate variability, lead firms need to actively manage risks – including those arising from sustainability demands placed by regulation, consumers and civil society groups. This involves not only cleaning up their own operations, but also those of their suppliers – through codes of conduct, mandatory reporting, supplier monitoring and/or requiring suppliers to deliver third-party certified ‘sustainable’ products. This has been achieved through varying combinations of hands-on strategies (in suppliers’ operations and in setting up supply specifications) and hands-off strategies (such as third-party certification) that allow the externalization of responsibility for sustainability.

GVCs are governed as a result of strategies and decision-making by specific actors, usually large firms that manage access to final markets, but also at regional and national/local levels. In deciding how to manage trade and production networks in global industries, lead firms are faced with a number of choices. First, whether to make components/procure supplies in-house, procure them on the market, or adopt hybrid solutions involving various kinds of longer-term relationships with suppliers. And second, if they decide to buy, they need to specify the characteristics of the good or service: price, volume, number of suppliers, and qualifications or attributes that suppliers should possess – including those related to sustainability. It is then crucial to examine the content and management of these decisions across all suppliers and sub-suppliers, the strategies behind the decisions taken, the management methods chosen to implement them, and the systems through which their outcomes are monitored and reacted on (Gereffi, 1994, Gereffi et al., 2005, Gibbon et al., 2008).

From a broader perspective, however, GVCs are also shaped by actors who do not directly produce, transform, handle or trade products and services – such as civil society organizations, social movements, consumer groups, networks of experts and policy-makers, and multi-stakeholder initiatives and partnerships for sustainability (Bair and Palpacuer, 2015, Bair, 2017, Nickow, 2015, Ponte and Sturgeon, 2014). Finally, states and international organizations play a key role in constructing and maintaining GVCs through facilitative, regulatory and distributive interventions (Nadvi and Raj-Reichert, 2015, Neilson and Pritchard, 2011, Mayer and Phillips, 2017). States can act as intentional architects of GVCs,

regulate (or deregulate) their functioning, and choose to (not) redistribute the extra wealth generated through GVCs. States can also be important direct actors in GVCs, for example through state-owned enterprises and public procurement (Horner, 2017). In other words, states make active choices in a ‘GVC world’.

In the rest of this article, I show that a comprehensive understanding of GVC governance that includes sustainability management can help explaining some of the key transformations of contemporary capitalism and related processes of accumulation. I also provide some indications on how public authorities and social movements could use specific orchestration instruments to address the emerging inequalities.

The business of environmental sustainability

The role of business in sustainability governance has changed quite dramatically in recent times. Until a decade or two ago, lead firms in GVCs operated mainly reactively to emerging sustainability concerns. They had only limited power in actively shaping the early sustainability agenda, which was driven mainly by civil society groups and social movements, sometimes in coalition with cities and states. When they exercised influence, it was commonly targeted to slowing down or defeating attempts at environmental regulation. However, more recently, lead firms have become more active in positively shaping sustainability discourses and practices, but their main concern has been to identify ways in which value could be created and captured through managing sustainability concerns. Lead firms are now actively using sustainability to help mitigating reputational risk, add to the bottom line, create new product lines, enhance brand loyalty, and increase their power in governing GVCs. Sustainability is thus becoming mainstreamed in business conduct and operations. An Accenture (2014) survey shows that 84 percent of polled CEOs reported that sustainability is being discussed and acted on at the board level. Sustainability is thus likely to remain a strategic concern as long as it can be leveraged for capital accumulation and to ensure competitive advantage. In other words, corporations are turning sustainability into a business.

While in the 1970s and 1980s, corporations were mostly reacting to activist and NGO campaigns and environmental regulation, in the 1990s they started becoming more engaged

in self-regulatory and market-based initiatives aimed at improving the environmental impact of their operations. The deregulation and liberalization processes that took place starting in the 1980s provided the basic conditions for this to take place. Furthermore, some major environmental NGOs, such as WWF, started to collaborate with corporations, attracted by the resources they can mobilise and the speed of change they can impart. Corporations continue to lobby against stricter environmental regulation and fund parties and politicians that could deliver the same, but this now tends to take place as part of a wider portfolio of corporate sustainability actions.

Dauvergne and Lister (2013) and Dauvergne (2016) have aptly documented the rise of the strategic leveraging of environmental sustainability among large branded firms in the 2000s. While sustainability commitments among large corporations had been made previously, they tended to be public relation campaigns or reactive measures that followed the exposure of their deleterious practices by NGOs, the media and consumer groups. At that time, companies which image and product offerings were built on sustainability (e.g. Ben & Jerry, Patagonia, the Body Shop) tended to target niche markets, even though they were growing healthily. By the mid-2000s, however, a new wave of sustainability initiatives within major corporations (e.g. Danone, General Electric, Ikea, McDonald's, Nestlé, Nike, Unilever, and Walmart) started to emerge. These initiatives are based on the expectation that they enhance profitability and brand reputation, and thus generate additional value.

This gradual mainstreaming process has been driven by cost-cutting and eco-efficiency efforts that provide corporations with a 'business case' for applying environmental improvements. Eco-efficiency processes such as decreasing energy and water use, optimizing packaging, and improving recycling often lead to net cost reductions in operations and thus allow a focus on the bottom line – something that became even more urgent following the economic downturn of the late 2000s. Companies like Ikea and Walmart have applied substantial cost-cutting measures on energy consumption, packaging and transport in their own operations, while showcasing these as examples of their 'commitment to sustainability'. Collecting carbon and other sustainability information has also allowed corporations to let possible investors better assess risk in investment decisions, thus facilitating access to finance (Dauvergne and Lister, 2013: 57-59).

Shifting consumer preferences are obviously a factor in shaping what kinds of products lead firms sell and with what sustainability features. However, consumer agency (both individual and collective in relation to consumer group pressure) should not be overstated. Ikea did not start demanding more sustainable packaging solutions from its suppliers as a result of consumer dissatisfaction, and Walmart did not move aggressively into organics because its consumers were clamoring for it. They took strategic steps in areas where they perceived a potential for better value creation and capture. Risk management of lead firms' brands (to avoid negative media exposure and/or adverse NGO campaigns) are more central to sustainability management practices than consumer demand (Richey and Ponte, 2011).

Whether the motivation is strategic and/or related to consumer demand, the fact is that corporations are seeking to develop new product lines with 'green' or 'ecological' features to diversify their portfolio, and/or create new or improved 'green' goods and services, such as photovoltaic cells, 'smart' thermostats, and wind turbines. This also allows them to open up new markets in emerging economies, especially when they can leverage increasing concerns with food safety and quality among the burgeoning middle classes through claiming that their products are 'green' or 'healthy'. In 2011, an Accenture survey among 250 business executives found that over 60 per cent of respondents saw sustainability as an essential feature in their emerging market expansion (Accenture, 2011). Furthermore, large corporate groups have aggressively sought the acquisition of smaller, 'sustainability-oriented' companies to diversify their brand and product portfolios (e.g. Unilever's acquisition of Ben & Jerry; and Jacobs Douwe Egberts' buying spree in the coffee industry, where it acquired Peet's Coffee & Tea, Caribou Coffee Co., Intelligentsia, and Keurig Green Mountain).

The emergence of the sustainability agenda has also led to a true explosion of partnerships, coalitions, and multi-stakeholder initiatives in the past decade – at the transnational, national and local levels. This has implied an increasing need for lead firms to participate in, or at least monitor the development of, these initiatives. Corporate involvement in sustainability partnerships with governments, NGOs and civil society groups has softened the latter's regulatory and political demands, deflecting more radical solutions and policy options (Dauvergne, 2016). Furthermore, hard-core corporate strategies are themselves being embedded into the practices of multi-stakeholder initiatives on sustainability. The market for sustainability certifications has become as competitive as the market for the goods upon which these labels are affixed. As a result, we are witnessing a proliferation in the number

and scope of certifications and labels in the sustainability marketplace (International Trade Centre, 2017), increased competition within the same realms of sustainability concern (e.g. the breaking off of Fair Trade USA from Fairtrade International in 2011), also the first signs of a classic corporate dynamic, merger and acquisition activity (e.g. the merger of Rainforest Alliance and Utz announced in 2017).

Some of these sustainability initiatives have been created within industry or business associations, such as Vision 2050 of the World Business Council on Sustainable Development (WBCSD), and the Sustainability Initiative of the World Economic Forum (WEF). Others have taken the form of consortia of like-minded corporations (such as the Business for Innovative Climate and Energy Policy, the Sustainable Food Laboratory, the Sustainability Consortium, and the Sustainable Agriculture Initiative Platform). Bilateral partnerships between business and civil society groups have also emerged, e.g. between Unilever and Greenpeace, Procter & Gamble and WWF, and Unilever and FLOCERT). And we observe the growth of multi-stakeholder initiatives which were initiated by lead firms in collaboration with civil society organizations (e.g. Unilever was a key player in the formation of the Marine Stewardship Council), and the formation of alliances of sustainability organizations (e.g. the Sustainable Food Laboratory, ISEAL Alliance).

Corporate sustainability efforts are spilling over the boundaries of lead firms not only in relation to alliances and multi-stakeholder initiatives but also along GVCs. Lead firms are increasingly demanding suppliers to conform with sustainability scorecards or codes of conduct (such as Ikea's IWAY; Nescafé's Better Farming Practices; Unilever's Sustainable Agriculture Code; Mondelēz's Cocoa Life, or Barry Callebaut's Cocoa Horizons). They ask their suppliers to apply life-cycle analysis, undertake audits, comply with standards and certifications, and/or provide sustainability reporting (Freidberg, 2013). Sustainability demands are often couched in ideational terms under the business school mantra of 'shared value' (Porter and Kramer, 2011). In many industries, first-tier suppliers are encouraged to do the same with their own suppliers.

Closer interaction with suppliers in view of monitoring, e.g. energy and resource use along value chains, provides lead firms with more information about, and control over, their suppliers – allowing lead firms to leverage additional cost information to extract value and push additional costs and risks upstream. In other words, these procedures and technologies

allow lead firms to acquire cost information from their suppliers which is then used to further squeeze purchasing prices and thus extract value from sustainability. Devising their own sustainability standard and procedures also allows lead firms to seek further diversification – as the market for certified sustainable products grows, it is more difficult to leverage these certifications as a unique selling point. On the one hand, the risk of reputational loss in internal sustainability system is higher because compliance problems are more easily related to the brand, rather than the certification logo. On the other hand, lead firms can set internal standards at lower levels than for certifications and employ a discourse of ‘continuous improvement’, thus mitigating the probability and impact of compliance failure.

Several other benefits for lead firms in GVCs arise from addressing sustainability concerns: (1) they gain better control over product quality and logistics without having to vertically integrate or invest in fixed assets; (2) they can stabilise and monitor the availability of resources and thus reduce the risk of negative impacts deriving from possible disruptions; (3) closer engagement with suppliers grants them better access to resources at times of supply shortages—this has been the case not only for rare earths for electronics, but also for high quality cocoa or unique coffee origins; and (4) sustainability, training and other ‘development’ initiatives that allow lead firms to package their supply concerns under the veneer of ‘doing good’ for local communities and farmers (e.g. Mars’ Cocoa Development Centers and Cocoa Village Clinics, Nestlé’s Rural Development Framework, Starbucks’ Kahawa Bora in collaboration with the Eastern Congo Initiative).

The business of environmental sustainability may be providing some measurable improvements, but it is increasingly evident that it is not sufficient as a global solution to pressing climate change and other environmental problems. However, it is enough for corporations to acquire legitimacy and governance authority in this field. This legitimacy is further enhanced through partnerships with governments and civil society groups. In other words, lead firms do not only exercise ‘power over’ their suppliers, but also ‘power with’ other actors in processes of legitimation (Dauvergne and Lister, 2013: 138). Some of this engagement is used strategically to provide ‘soft’ solutions to sustainability concerns and to avoid more stringent regulation. While the business of sustainability is leading to some environmental improvements in some places, and better use of resources in relative terms in some industries, the overall pressure on global resources is increasing.

Sustainability management and green capital accumulation

What do these trends mean for the structure and operation of GVCs and the global economy more generally? As Coe and Yeung (2015: 4-7) have argued, the organizational dynamics of global value chains and production networks have been driven by three important capitalist dynamics in the past three decades: (1) cost minimization; (2) flexibility; and (3) speed. The drive for ever lower costs has led to a ‘spatial fix’, with lead firms seeking lower-cost but competent suppliers in new locations – in other words, trying to minimise cost/capability ratios. The other two dynamics have led to an ‘organizational fix’, e.g. outsourcing to independent suppliers and/or seeking flexibility through the casualization of labour and the weakening of labour unions, and a ‘technological fix’, e.g. seeking new solutions to improve lead time and adaptability (see also Dicken, 2007). Both in turn have tended to facilitate vertical specialization in segments of GVCs where lead firms have the greatest core competences. To these, one could add a ‘labour regime’ fix, the tendency to. These fixes have allowed capital accumulation to continue and strengthen – as new technologies, deregulation and globalization transform the institutional framework within which corporations operate.

I argue that we are currently witnessing the emergence of a fourth capitalist dynamic: *sustainability management*. Sustainability management relates to the practices that corporations put in place to address sustainability issues. Sustainability management is reshaping existing spatial, organizational and technological fixes in various ways: (1) some products are increasingly sourced from locations that can deliver sustainability certifications and specifications in larger volumes and at lower cost, or with lower material and energy use (Auld, 2014, Gulbrandsen, 2010); (2) multi-stakeholder initiatives are playing an important role in governing sustainability and, indirectly, in reshaping the organization of GVC operations (Barrientos et al., 2011, De Marchi et al., 2013, Hassan and Lund-Thomsen, 2016); (3) labour regimes in supplier operations are put under pressure from the need to meet new environmental sustainability demands of lead firms (Riisgaard, 2011); (4) the need to monitor and document sources and processes of sustainability compliance is bringing into play new technologies, such as value chain traceability, sustainability auditing of suppliers, and new metrics and compliance assessment instruments (Freidberg, 2013, Freidberg, 2014, Giovannucci and Ponte, 2005); and (5) these technologies are themselves being leveraged to obtain more information from suppliers that can be used to better manage value chains

without necessarily resorting to vertical integration (Dauvergne and Lister, 2013). This last aspect is especially important in view of managing procurement risk due to natural disasters – witness, for example, the severe disruptions to value chain operations caused in 2011 by the tsunami in Japan and floods in Thailand. As value creation and capture possibilities constantly change, sustainability management is offering new operationalizations of capital accumulation.

While from the mid-1990s to the mid-2000s, the tendency had been for lead firms to move away from hands-on engagement with suppliers in view of tackling sustainability challenges, for example through third party certifications (Gibbon and Ponte, 2005), in the past decade or so this tendency has partially reversed. Lead firms are now re-engaging more directly with (fewer) suppliers within systems of sustainability metrics that they either control internally or develop in cooperation with international NGOs (e.g. Nestlé’s Nespresso AAA Sustainable Quality™ Program, Unilever’s Sustainable Living Plan, Mondelēz’s Cocoa Life, and Coca Cola’s Water Stewardship). As these developments take place, the extra cost of sustainability compliance and its related risks are more efficiently pushed upstream towards producers, thus raising entry barriers for smaller, less organised and/or more marginalised actors – especially in the global South. Extra environmental compliance costs can also create incentives to actually further undermine social and labor conditions of production among suppliers. Under the mantle of achieving environmental sustainability, lead firms in GVCs capture value for themselves, while extracting more demands from their suppliers and promoting a further consolidation of their supply base. This is what I term the ‘sustainability-driven supplier squeeze’ [reference withdrawn], which is part of a wider ‘cost squeeze’ dynamic aptly documented by Milberg (2008) and Milberg and Winkler (2013).

The analysis of selected GVCs in the agro-food sector [references withdrawn] suggests that suppliers have undergone impressive upgrading trajectories as a result of lead firms’ sustainability requirements and yet have achieved limited economic gains. Suppliers are offering more content, including sustainability features, often to simply keep participating in GVCs. This often leads to lower margins for suppliers unless productivity gains can more than compensate for higher costs. When suppliers do manage to receive higher prices, it is usually in the context of much larger gains that buyers obtain in the same GVC. In other words, a ‘sustainability supplier squeeze’ goes hand in hand with ‘green capital accumulation’ by lead firms in GVCs. The value created by producers through upgrading is

mostly captured by buyers. At the same time, consumers can enjoy a wide variety of special and/or ‘sustainable’ products that deliver a ‘feel good’ factor. In specialty consumer markets, this is accompanied by a consumer price premium, which is unequally distributed along the GVC, while in mainstream markets consumer prices tend to remain the same – thus leading to pressure on margins along the chain all the way to producers.

The distribution of economic outcomes between lead firms and suppliers arising from upgrading indicate a disproportional capture of sustainability ‘value’ by buyers to the expense of suppliers, especially in unipolar GVCs. In bipolar and multipolar GVCs, the distribution of value added is more balanced among various kinds of operators. Overall, the impact of upgrading on environmental outcomes has been limited, especially in comparison with the upgrading efforts entailed [references withdrawn]. Existing research specifically focused on the environmental outcomes of sustainability certifications provides a key example confirming this general picture. A review over 2,600 peer-review impact studies of sustainability certifications (in the banana, cocoa, coffee, oil palm, and tea sectors) on social and environmental conditions of production (DeFries et al., 2017), identified only a sub-set of 24 cases that ‘rigorously analysed differences between treatment (certified households) and control groups (uncertified households) for a wide range of response variables’ (DeFries et al., 2017: 1). It found that certification could be associated to positive outcomes (social and/or environmental) for 34 per cent of response variables, with no significant difference for 58 per cent of variables, and negative outcomes for eight per cent of variables. This suggests that sustainability certifications can have a positive impact, but they are usually narrow and only under certain conditions. This is not surprising, and it would be naïve to expect blanket positive results across different contexts and in relation to a variety of environmental (or social) issues. However, it does signal that the ‘success’ of sustainability certifications is related to market expansion rather than to actual environmental outcomes.

Overall, we observe a multiplication and expansion of *markets* for sustainable products and services (and of the standard development, certification, auditing, accreditation and consulting industry that goes with it) (Lernoud et al., 2016), rather than the achievement of sustainability in production and processing operations in GVCs. So far, this has led to many efforts to better include suppliers in ‘sustainable GVCs’ through value chain interventions (DeFries et al., 2017, Humphrey and Navas-Alemán, 2010, Taglioni and Winkler, 2016, Neilson and Shonk, 2014), but much less so in ensuring that certifications, standards and

other sustainability initiatives actually lead to improved environmental outcomes. This may be changing, as the ISEAL Alliance (an association of sustainability standards developers) now requires its core members to comply with its 'Impacts Code of Good Practice', which may increase pressure on sustainability certification initiatives to show that they actually make a difference. For the time being, lead firms are placing 'blame' upstream for negative environmental repercussions of GVC activities in ways that limit their risk and generate capital accumulation by solving the environmental problems that they contributed to create (Havice and Campling, 2017). These findings dispel the long-held view that managing sustainability issues generally hurts the economic performance of companies. On the contrary, sustainability management actually facilitates green capital accumulation for lead firms in GVCs.

By leveraging sustainability management strategically, lead firms in GVCs can now actually afford to be *less* concerned with shaping the broader sustainability agenda beyond their corporate boundaries. Granted, collective initiatives on sustainability that are industry-driven are still important (Fransen, 2012), and corporations are still either participating in, or closely monitoring, NGO-driven sustainability initiatives. However, recent social network analyses have shown that lead firms do *not* currently play a central role in multi-stakeholder initiatives (Fransen, 2015, Henriksen, 2015, Henriksen and Ponte, 2018). Some lead firms have played important roles in early phases of institutionalization, but then took a more hands-off approach (e.g. Ahold in Utz, Unilever in MSC). In other words, lead firms have been active in implementing a particular interpretation of the sustainability agenda for their own benefit, but are not currently dominant, or even central, in shaping such agenda. They do not need to concern themselves too much with it because they have found ways to make specific operationalizations of sustainability management profitable; and when addressing some aspects of sustainability that are not profitable in the short term, lead firms can still use sustainability instruments to externalise risk, widen product portfolios, improve information about and control over suppliers, and manage brand reputation. Although lead firms do not control multi-stakeholder initiatives, they can still use them to diffuse responsibility away from corporations, promote ideas of continuous improvement to defer accountability, and ultimately portray that they can marry two otherwise incommensurable goals – achieving sustainability while constantly stimulating growth in global production and consumption. In the next section, I discuss what public sector institutions and social movements can do to make sure that sustainability management delivers not only the bottom line for lead firms, but

also a more equal distribution of economic benefits along GVCs, together with tangible benefits for the environment.

What can be done?

Recent research shows that four factors can enable orchestration in successfully addressing sustainability issues along GVCs [references withdrawn]: combinatory efforts; high issue visibility; interest alignment; and a unipolar governance structure. In relation to *combinatory efforts*, I refer to the classification of orchestration instruments developed in Abbott and Snidal (2009b). In my adaptation of this classification, I distinguish between: (1) directive orchestration instruments, including international and national regulation, the ‘threat of regulation’, also known in the literature as the ‘gorilla in the closet’ or ‘shadow of hierarchy’ factor (Bäckstrand, 2008, Verbruggen, 2013), the incorporation of private standards, codes of conduct or transparency measures in public regulation, the provision of direct subsidies and the setting of mandates, and public procurement and other direct forms of financial support and investment; and (2) facilitative orchestration instruments, where public authorities either facilitate, indirectly influence, network, and/or participate with other stakeholders in key initiatives or groups – such as industry associations, multi-stakeholder initiatives, and industry conferences. Analysis conducted elsewhere suggests that we can expect more successful orchestration when public authorities employ a *combination* of substantial directive *and* facilitative instruments [references withdrawn].

On *issue visibility*, the literature shows that there is more potential for orchestration occurs if the product, industry, and/or related set of environmental issues are clearly visible to the general public, and particularly to consumers (Dauvergne and Lister, 2013). Therefore, orchestration is more likely to succeed in GVCs that handle consumer-facing and branded products. When an environmental issue is not clearly visible to key stakeholders, orchestration efforts could include those that seek to enhance visibility [references withdrawn]. On *interest alignment*, research shows that better orchestration possibilities exist when there is substantial overlap between public and private interests (Schleifer, 2013, Verbruggen, 2013). Because different value chain nodes are regulated by different authorities, there may be different kinds of (mis)alignments between private and public sector interests in different GVC nodes. While it is rare for interests to be aligned at all nodes,

alignment at key nodes can provide a strong entry point for orchestrators in an attempt to stimulate environmental improvements along the whole GVC. In any case, interest alignment is not static and can be targeted as an objective of orchestration [references withdrawn].

On *unipolarity*, recent GVC research suggests that environmental upgrading is more likely to happen in value chains with unipolar governance, where power is exercised by a group of lead firms placed at one specific functional position in the chain, rather than in bipolar or multipolar value chains [references withdrawn]. It is also more likely to occur when lead firms are consumer-facing companies with high reputational risks. From an orchestration perspective, this means that it is easier to leverage change in GVCs that are governed by a very specific group of powerful lead firms, than in those where there is no clear locus of power. Paradoxically, however, in these GVCs lead firms are also more able and prone to extract sustainability value from suppliers in view of achieving ‘green capital accumulation’.

These findings suggest that public actors at all jurisdictional levels can still put in place orchestration strategies to target actual sustainability goals, rather than only green capital accumulation, and that activists and civil society groups can identify and leverage pressure to strengthen the effectiveness of orchestration. But these strategies have to be informed by the realities of the daily practices, power relations and governance structures of a world economy that is organised in global value chains. While space limitations do not allow a detailed discussion of specific examples [see references withdrawn], orchestration in general seems to be more likely to succeed when: a combination of directive and facilitative instruments is used; sustainability issues have high visibility in a GVC; private and public sectors’ interests are made to align at key nodes of the GVC; and the GVC exhibits unipolar governance. Orchestration then entails choices about possible combinations of directive and facilitative instruments that reinforce each other, ways of improving issue visibility, the provision of incentives that can facilitate the alignment of private and public sector interests, and the identification of leverage points along the GVC.

But how can orchestrators choose what kinds of directive and facilitative instruments to use, and with what balance? How do they enhance issue visibility? How do they operate to better align private and public sector interests? How do they identify and act on specific leverage points in the GVC? Lessons from selected GVCs in the agro-food sector can provide some input into answering these questions [references withdrawn]. In the wine GVC, for example,

orchestrators could better execute combinatory efforts that include directive and facilitative instruments. The EU and national governments have historically engaged in a variety of directive and facilitative efforts, but not so much in relation to sustainability. Directive tools, for example, could include directly stimulating environmental upgrading through regulation, for example requiring, developing and/or supporting standards and certifications on the sustainability of wine production, trade and export. Facilitative instruments could include, for example, fund and/or support platforms seeking to include of environmental issues in wine scoring; and/or facilitate the systematic inclusion of sustainability issues in vocational training and other educational offerings. On issue visibility, orchestrators are unlikely to be able to improve it without engaging with the type of actors who have deeply transformed the wine industry in the past few decades: key wine tasters and reviewers, wine journalists, magazines and online platforms, and flying winemakers and viticulturists. Interest alignment is already high in this GVC, thus efforts in this direction should not be prioritised. Given the current unipolar governance structure of this GVC, cooperation with – and regulatory pressure on – retailers is also essential [references withdrawn].

A contrasting set of possible strategies emerges from the analysis of the biofuel GVC, where orchestrators, such as the EU and the US, have already carried out important combinatory efforts to seek improvements in sustainability, including substantial directive and facilitative measures [references withdrawn]. However, there is still margin for improvement. For example, the quality of governance in private certification systems that are recognised by the EU to meet its Renewable Energy Directive directive vary widely, thus calling for minimum standards on process, not only on indicators; and the impact of sustainability certification needs to be assessed in view of actual outcomes on the ground. The same approach could be used to improve issue visibility. Orchestrators could, for example, promote a more open debate and consideration of indirect land change use in the calculations of GHG emissions abatement in biofuel production. Finally, orchestration measures could seek to strengthen the position of producers of ‘next generation’ feedstocks (which are putatively more sustainable) vis à vis ‘first generation’ feedstocks – for example, by devising long-term transition measures to facilitate a smooth transition away from first generation biofuels, and in so doing improve the overall interest alignment between the public sector and different segments of the private sector. The biofuel GVC exhibits a multipolar governance structure, and thus is unlikely to offer clear and specific leverage points. This means that a broader regulatory approach is needed [references withdrawn].

Conclusion

Tackling climate change and other environmental crises entails a critical reflection on processes and outcomes that are behind sustainability management by business. Sustainability management is built on the foundation provided by the ‘compromise of liberal environmentalism’, with sustainability coalitions and approaches combining in ways that promote and maintain a liberal economic order (Bernstein, 2012). Sustainability has become a commodity itself, to be traded, bought, sold and managed like all others. How lead firms in GVCs address sustainability issues has become a key competitive element for operating in the contemporary global economy, and a source of value creation and capture – facilitating a process of ‘green capital accumulation’. Sustainability management is then emerging as a fourth key capitalist dynamic in addition to cost minimization, flexibility and speed (Coe and Yeung, 2015) – leading corporations to devise new spatial, organizational and technological ‘fixes’ to ensure and expand capital accumulation.

Business has turned the sustainability challenge into an asset, at least in the short term. Those who argue that the main role of business is to make profit and distribute value to shareholders will not be surprised by this turn of events. But environmental outcomes do not necessarily improve as a result of sustainability initiatives, thus we cannot rely on business conduct alone to address pressing sustainability concerns. Because business is leveraging sustainability mainly for its own purposes, social movements, governments and international organizations need to find ways of better orchestrating a variety of sustainability initiatives if they actually wish to achieve environmental protection. On the one hand, business representatives seem to be asking for more regulation and a level-playing field. An Accenture (2014) survey indeed reports that CEOs are frustrated with the collective failure of the global business community to accelerate the pace and enlarge the scale of change—more than 80 percent want their governments to create a level playing field. On the other hand, their lobbying efforts indicate that they often resist further regulation.

Both public authorities and civil society groups need to be aware of the major limitations of what can be achieved through self-regulation and multi-stakeholder cooperation in a world of GVCs. This does not mean that they have a diminished role. It means that they need to

combine directive and facilitative orchestration instruments, use tools that enhance issue visibility, shape interest alignment at key nodes in GVCs, and identify key pressure points within GVCs (especially in those with unipolar governance) that are most likely to stimulate positive change. The fact that lead firms are not currently dominant, or even central, in shaping the sustainability agenda opens up new space and new possibilities for successful orchestration.

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