

STREAM READINGS

**GLOBAL REGULATION,
FINANCE AND TAX POLICY**



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Global Regulation, Finance and Tax Policy

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Description

This stream will explore the forces which structure the global regulatory terrain. We will consider the tension between global, regional or bilateral trade regimes and the policy space for national regulation; as well as the vastly unequal power of different national regulators, all of whom affect economic life beyond their borders in ways they have and have not anticipated. We aim to help participants map, navigate and alter the complex global regulatory terrain affecting their economic development objectives.

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The Real Threat of Artificial Intelligence

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By KAI-FU LEE JUNE 24, 2017

BELLING — What worries you about the coming world of artificial intelligence?

Too often the answer to this question resembles the plot of a sci-fi thriller. People worry that developments in A.I. will bring about the “singularity” — that point in history when A.I. surpasses human intelligence, leading to an unimaginable revolution in human affairs. Or they wonder whether instead of our controlling artificial intelligence, it will control us, turning us, in effect, into cyborgs.

These are interesting issues to contemplate, but they are not pressing. They concern situations that may not arise for hundreds of years, if ever. At the moment, there is no known path from our best A.I. tools (like the Google computer program that recently beat the world’s best player of the game of Go) to “general” A.I. — self-aware computer programs that can engage in common-sense reasoning, attain knowledge in multiple domains, feel, express and understand emotions and so on.

This doesn’t mean we have nothing to worry about. On the contrary, the A.I. products that now exist are improving faster than most people realize and promise to radically transform our world, not always for the better. They are only tools, not a competing form of intelligence. But they will reshape what work means and how wealth is created, leading to unprecedented economic inequalities and even altering the global balance of power.

It is imperative that we turn our attention to these imminent challenges.

What is artificial intelligence today? Roughly speaking, it’s technology that takes in huge amounts of information from a specific domain (say, loan repayment histories) and uses it to make a decision in a specific case (whether to give an individual a loan) in the service of a specified goal (maximizing profits for the lender). Think of a spreadsheet on steroids, trained on big data. These tools can outperform human beings at a given task.

This kind of A.I. is spreading to thousands of domains (not just loans), and as it does, it will eliminate many jobs. Bank tellers, customer service representatives, telemarketers, stock and bond traders, even paralegals and radiologists will gradually be replaced by such software. Over time this technology will come to control semiautonomous and autonomous hardware like self-driving cars and robots, displacing factory workers, construction workers, drivers, delivery workers and many others.

Unlike the Industrial Revolution and the computer revolution, the A.I. revolution is not taking certain jobs (artisans, personal assistants who use paper and typewriters) and replacing them with other jobs (assembly-line workers, personal assistants conversant with computers). Instead, it is poised to bring about a wide-scale decimation of jobs — mostly lower-paying jobs, but some higher-paying ones, too.

This transformation will result in enormous profits for the companies that develop A.I., as well as for the companies that adopt it. Imagine how much money a company like Uber would make if it used only robot drivers. Imagine the profits if Apple could manufacture its products without human labor. Imagine the gains to a loan company that could issue 30 million loans a year with virtually no human involvement. (As it happens, my venture capital firm has invested in just such a loan company.)

We are thus facing two developments that do not sit easily together: enormous wealth concentrated in relatively few hands and enormous numbers of people out of work. What is to be done?

Part of the answer will involve educating or retraining people in tasks A.I. tools aren’t good at. Artificial intelligence is poorly suited for jobs involving creativity, planning and “cross-domain” thinking — for example, the work of a trial lawyer. But these skills are typically required by high-paying jobs that may be hard to retrain displaced workers to do. More promising are lower-paying jobs involving the “people skills” that A.I. lacks: social workers, bartenders, concierges — professions requiring nuanced human interaction. But here, too, there is a problem: How many bartenders does a society really need?

The solution to the problem of mass unemployment, I suspect, will involve “service jobs of love.” These are jobs that A.I. cannot do, that society needs and that give people a sense of purpose. Examples include accompanying an older person to visit a doctor, mentoring at an

orphanaage and serving as a sponsor at Alcoholics Anonymous — or, potentially soon, Virtual Reality Anonymous (for those addicted to their parallel lives in computer-generated simulations). The volunteer service jobs of today, in other words, may turn into the real jobs of the future.

Other volunteer jobs may be higher-paying and professional, such as compassionate medical service providers who serve as the “human interface” for A.I. programs that diagnose cancer. In all cases, people will be able to choose to work fewer hours than they do now.

Who will pay for these jobs? Here is where the enormous wealth concentrated in relatively few hands comes in. It strikes me as unavoidable that large chunks of the money created by A.I. will have to be transferred to those whose jobs have been displaced. This seems feasible only through Keynesian policies of increased government spending, presumably raised through taxation on wealthy companies.

As for what form that social welfare would take, I would argue for a conditional universal basic income: welfare offered to those who have a financial need, on the condition they either show an effort to receive training that would make them employable or commit to a certain number of hours of “service of love” voluntarism.

To fund this, tax rates will have to be high. The government will not only have to subsidize most people’s lives and work, it will also have to compensate for the loss of individual tax revenue previously collected from employed individuals.

This leads to the final and perhaps most consequential challenge of A.I. The Keynesian approach I have sketched out may be feasible in the United States and China, which will have enough successful A.I. businesses to fund welfare initiatives via taxes. But what about other countries?

They face two insurmountable problems. First, most of the money being made from artificial intelligence will go to the United States and China. A.I. is an industry in which strength begets strength: The more data you have, the better your product; the better your product, the more data you can collect; the more data you can collect, the more talent you can attract; the more talent you can attract, the better your product. It’s a virtuous circle, and the United States and China have already amassed the talent, market share and data to set it in motion.

For example, the Chinese speech-recognition company iFlytek and several Chinese face-recognition companies such as Megvii and SenseTime have become industry leaders, as measured by market capitalization. The United States is spearheading the development of autonomous vehicles, led by companies like Google, Tesla and Uber. As for the consumer

internet market, seven American or Chinese companies — Google, Facebook, Microsoft, Amazon, Baidu, Alibaba and Tencent — are making extensive use of A.I. and expanding operations to other countries, essentially owning those A.I. markets. It seems American businesses will dominate in developed markets and some developing markets, while Chinese companies will win in most developing markets.

The other challenge for many countries that are not China or the United States is that their populations are increasing, especially in the developing world. While a large, growing population can be an economic asset (as in China and India in recent decades), in the age of A.I. it will be an economic liability because it will comprise mostly displaced workers, not productive ones.

So if most countries will not be able to tax ultra-profitable A.I. companies to subsidize their workers, what options will they have? I foresee only one: Unless they wish to plunge their people into poverty, they will be forced to negotiate with whichever country supplies most of their A.I. software — China or the United States — to essentially become that country’s economic dependent, taking in welfare subsidies in exchange for letting the “parent” nation’s A.I. companies continue to profit from the dependent country’s users. Such economic arrangements would reshape today’s geopolitical alliances.

One way or another, we are going to have to start thinking about how to minimize the looming A.I.-fueled gap between the haves and the have-nots, both within and between nations. Or to put the matter more optimistically: A.I. is presenting us with an opportunity to rethink economic inequality on a global scale. These challenges are too far-ranging in their effects for any nation to isolate itself from the rest of the world.

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Rents, Power and Governance in Global Value Chains

Abstract

This paper addresses the generation of rents and the distribution of gains in the global operations of governed Global Value Chains (GVCs) and seeks to provide an architecture for analysing the governance of GVCs. It distinguishes between four sets of rent (gifts of nature; innovation rents; exogenously defined rents; and market power) and three spheres of governance (setting the rules - "legislative governance"; implementing the rules - "executive governance"; and monitoring rules and sanctioning malfeasance - "judicial governance"). The exercise of governance power in GVCs over the generation, protection and appropriation of rents is considered through the lens of four sets of key GVC stakeholders – the corporate sector, civil society organisations, the nation state and supranational institutions. This general analysis is given flesh through three case studies – food-safety standards in GVCs; taxation policies and competition policies. In these sectors, the corporate sector is generally much more effective in governing rent generation and appropriation in the global operations of GVCs than are the three sets of non-corporate stakeholders. From this observation we offer an hypothesis that the capacity of non-corporate stakeholders to govern GVCs is contingent upon the extent to which this coincides with the interest of the corporate sector. However, as noted, this balance of power between private and non-corporate actors is a contested terrain and dynamic in nature.

Keywords

Governance
Global Value Chains
Economic Rents
Food safety standards
Competition Policy
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1. Introduction

Global Value Chains (GVCs) now dominate global trade and much of global production. The World Trade Organisation estimated that in 2012, two-thirds of global trade occurred within the framework of GVCs (Reported in UNCTAD 2013). This estimate follows from a broad definition of GVCs to include all trade which involves either (or both) of the processing of imports which are then exported to other countries, or the production of exports which are processed elsewhere and then exported to further destinations. In other words, this definition covers production in a chain which involves at least three countries. In this paper we employ a narrower definition of GVCs to consider trade in value chains which is in some sense controlled ("governed") by one or more parties¹. This may involve control over logistics, the division of labor in the chain, technology and innovation, property rights, branding and other determinants of competitive positioning in final markets and the distribution of returns in GVCs. In a global world dominated by GVCs, governance of these issues involves a complex interplay between private and public sectors actors exercising power - firms within value chains, civil society, nation states, and international regulatory bodies (Kaplinsky and Morris 2001; Gereffi et al. 2005; Kaplinsky 2005)².

This paper has its origins in a practical question. One of our co-authors is also the Judge President of the Competition Appeal Court in South Africa and interacts with Competition Courts in a variety of economies including the US, the EU and the South. As he puts it: "*Competition and corporate law operate on the assumption that the nation state governs the performance of actors within the domestic economy. But the firms I am dealing with operate at a global level. How do I square this circle?*" In other words, how can nation states influence the distribution of benefits generated through the extension of in GVCs and how do they do so?

The central focus of this paper is to examine those factors which determine the distribution of chain incomes, not only to lead firms and nation states, but also to other stakeholders (for example, firms in the supply chain, consumers and civil society actors). We will argue that distributional patterns in GVCs are an outcome of governance and can be understood in terms of the command over the rents generated in GVCs (Section 2). Rents are clearly generated by firms, and in GVCs lead firms dominate this process of rent accretion. The issue is what governs the extent and nature to which other stakeholders shape these processes of rent generation and how they obtain a share of GVC rents.

¹ There are no estimates of the share of governed-GVC trade in total GVC trade, partly because the nature and degree of governance varies and is often difficult to detect. We presume, however, based on our experience with sectoral research, that governed GVC-trade accounts for a significant share of total GVC trade (see also Gereffi et al 2005 for a typology of GVCs ranging from hierarchy to more arm's length contracting).

² GVC analysis has some original similarity to world systems theory concepts of global production and labour networks (Hopkins and Wallerstein 1994). Some analysts have suggested it has its origins in world systems theory but acknowledge that with the prefixing of governance (and power) this connection can no longer be sustained (Gibbon et al 2008).

This requires us to focus on the nature and determinants of power relations in GVCs (in the current context, Section 3); in other words which actors govern rent generation and distribution in these global production networks, and how is this governance power exercised. As we will seek to show, the capacity of actors internal to the chain is circumscribed by the complementary actions of three other sets of stakeholders external to the chain – nation states, civil society actors and supranational institutions (Section 4). Whilst, to varying degrees, each of these four diverse stakeholders has the power to influence the nature of rent generation and distribution, the substance of their governance power is in many respects fundamentally different.

We identify three common characteristics to the variable governance power exercised by different stakeholders. The first is the capacity to set the terms in which rents are generated and appropriated in GVCs (we refer to this as "legislative governance"). The second is the capacity to influence the chain actors to meet these rules of incorporation in GVCs (we refer to this as "executive governance"). The third is the capacity to monitor the performance of different actors in the chains ("judicial governance"). As we show in three sectoral case studies (Section 5), although effective chain governance requires that each of these three facets of governance are exercised, it is seldom the case that they are exercised by the same chain governor, or that there is a single source of chain governance. Thus, governance in chains is diffuse, variable, dynamic and contested. Nevertheless, pervasive hierarchies of power can be identified (Section 6).

The GVC literature has been strong on internal chain governance but criticised for being relatively weak in its ability to incorporate the role and impact of broader institutional relations of public power (for example the nation state) (Neilson et al 2014). The global production network (GPN) literature has put much stronger emphasis on the role of non-firm actors and multi-scalar institutional, socio-political and cultural contexts within which value chains and production networks are grounded (Coe et al., 2008; Henderson et al., 2002; Neilson and Pritchard, 2009; Yeung and Coe, 2015). Empirical studies have shown that firms' societal embeddedness shapes their economic behaviour and, hence, power and governance structures in GPNs (for an overview, see Hess and Yeung, 2006).

However explicit theorisation of the role of such actors and the nation state, of the specific impact of action and inability to act, within the GVC (and to a lesser extent the GPN) literature is still in its infancy. Recent publication has attempted to broaden the scope of GVC and GPN analysis to incorporate external political economy issues (Neilson et al 2014; Ponte and Sturgeon 2014; Ravenhill 2014; Seabrooke and Wigan 2014). Moreover there has also been a concerted effort to start the process of analysing GVCs through a broader governance lens of dealing with national and supranational institutions, and issues of international tax and wealth accumulation (Mayer and Phillips 2017; Bair 2017; Postuma and Rossi 2017; Seabrooke and Wigan 2017). It is our intention here to build on this work by specifically

focusing on how governance in GVCs provides opportunity or constrains various actors from exercising of power over the distribution of rents.

We come at this discussion of the political economy of GVC governance from a variety of disciplinary backgrounds – law, economics and political economy. We are aware that other disciplines such as international political economy, sociology and economic geography have addressed some of the issues which we consider, and are conscious that the limited literatures which we cite are partial and reflect our individual disciplinary backgrounds. As a consequence we will not reference related specialised literatures; aware that individual readers will fill in/context our discussion by relating it to their particular disciplinary and case-study specialisations. Necessarily therefore, and by design, this paper offers an under-referenced discussion of other disciplinary approaches to the nature and determinants of governance in GVCs.

2. Rent Generation and Rent Appropriation in GVCs

Globalisation provides the scope to gain from scale economies and in so doing, to reap the benefits of specialisation. Selling into demanding and competitive markets exposes producers to new ways of processing, better and new inputs, new customers and new product designs. Given the rapidity of technical progress in highly competitive global markets, the capacity to learn through exporting offers rewarding prospects for economic management and for individual producers. The post 1970s deepening of globalisation was driven by lead firms constructing increasingly fragmented supply chains criss-crossing national borders. These complex GVCs required coordination, facilitated by command over logistics, transport and communications technologies, necessarily buttressed by the power of the lead firms.

There are a number of economies and many firms which have managed to grasp the opportunities provided by rapid export growth to achieve sustainable income growth. The most prominent examples of economies are those in Asia – initially Japan from the 1950s and 1960s, then the Asian Tigers (Hong Kong, Korea, Singapore and Taiwan) from the 1970s and 1980s, and most recently China after the mid-1980s. This wide-ranging economy-wide success was built on the performance of successful exporting firms with a multinational footprint such as Toyota (Japan), Samsung (Korea), Acer (Taiwan) and Huawei (China).

However, the *potential* for reaping these different benefits made possible through participating in global markets does not automatically translate into the *reality* of achieving these gains. Consider the experience of the Central American economies in the 1980s and 1990s who sought to promote export and income growth through an expansion of Export Processing Zones. Many firms burnt their fingers in this phase of export expansion (Kapilinsky, 1993). For example, a Dominican Republic assembler of jeans for the US market invested \$150,000 in new equipment in 1989. It began exporting 9,000 jeans a week at a unit price of \$2.18, but in the space of 12 months the quantity and

price of these exports fell progressively to 5,000 and \$2.00 and then to 3,000 and \$1.87 respectively. Thus, this mode of export growth did not provide for sustainable income growth but for immiserising growth, that is, a process of increasing economic activity with declining real incomes.

What makes the difference between these positive and negative outcomes? The answer lies in the capacity to generate rents, to appropriate rents and to protect rents within the context of the dynamics driving GVCs (Kapilinsky 2005). Rent describes an environment of scarcity in the context of demand. The holder of rent benefits from an absence (relative or absolute) of competition, protected by one or more barriers to entry. The more desired the scarce attribute, and the higher the barriers to entry, the higher are the resultant incomes. If these barriers to entry can be protected, then the incomes are sustainable over time. Where they cannot be protected, it is the ability to generate new rents ("dynamic rents") which provides for sustainable incomes (Schumpeter 1934). Hence the capacity to appropriate rents provides the key to a gainful insertion into global export markets. The converse leads to intensifying competition, with a negative affect on incomes. The Dominican Republic garment producer cited above merely assembled imported components into final products through the use of unskilled labour. When this competitiveness built on unskilled labour was eroded through competitive devaluations in surrounding economies (having the same trade preference in the US market), neither the firm or the economy at large possessed any specific attributes which made it the preferred and profitable supplier to the US market.

Four primary sources of rent affect income streams. The first are resource rents, "gifts of nature", in which a producer has access to relatively better land or resource deposits than a rival, and where the price of the resource is set by the costs of production of the less well-endowed producer. Examples of such resource rents can be found across the primary sector – fertile agricultural land, high ore-content minerals close to the surface, and low-cost and accessible hydrocarbon deposits

The second major category of rents are those which are created by producers, increasingly through the systematic application of knowledge to production (Schumpeter 1934; Freeman, 1974). These "innovation rents" are endogenous to the participants involved in the chain of production. They may be generated by developing better production processes than rivals, introducing higher quality or differentiated products, or developing forms of organisation which are superior to those utilised by rivals.

Complementing these endogenous "created" rents are the exogenous rents which are external to the production chain participants, but which influence their capacity to generate and appropriate rents. Compared to rivals in other economies, producers may benefit, for example, from access to better forms of infrastructure, from lower cost and directed financial intermediation and have access to a better trained workforce and to other inputs which affect their capacity to produce effectively. Intellectual property rights regimes (IPRs)

buttress their capacity to appropriate the rents generated in production and exchange.

The fourth category are “market rents” which arise through exclusive or near-exclusive control over input and product markets. Here, control inhibits market-entry by competitors through a variety of mechanisms such as collusion, predatory pricing and restrictive practices. This may lead to monopolistic-rents where there are no other competitors; or, through collusion with other powerful parties, to oligopolistic-rents which are competitively shared by a limited number of colluding parties.

Whilst these four categories of rent – resource, endogenous, exogenous and market – are distinct, they are not independent. For example, the capacity of the productive sector to generate and appropriate rents will be a function of the environment in which firms operate and the exogenous rents which they provide. But chain participants are able to influence the policy environment and help to shape the structure of exogenous rents. Similarly, although resource rents are a gift of nature, innovation by chain participants in the search for endogenous rents may lower the costs of resource extraction or produce technologies which compensate for low-grade resource deposits (Wright and Czelusta, 2004). Market rents may be a function of regulated systems and industrial policies which dampen competition, but at the same time, large firms are often able to shape a regulatory environment in a way which limits competition, for example by seeking tariffs to exclude or disadvantage foreign competitors from the domestic market.

Understanding the source of entry barriers, their sustainability over time and the capacity of society to control and limit rents requires an understanding of the governance of GVCs. For within GVCs rents are generated, maintained, appropriated, and enforced via power, and governance is the form that the exercise of power takes along the chain. This will become apparent in the general discussion which follows in Section 4 and in the three case-studies which we present in Section 5. However, before pursuing these issues, it is necessary to situate the analysis in the particular context in which governed GVCs have risen to prominence in the global economy.

3. Changing Context in the Global Governance of GVCs

Three related developments have characterised the recent era of globalising growth. The first is the advancing globalisation of production and consumption. This involves a fundamental shift in the structure of firms, their interrelationships, and how they relate to other actors and institutions in the public and private spheres. In a previous era, roughly between the end of WW2 and the 1980s the corporation and the nation state occupied a clear territorially defined identity in terms of ownership, production, nationality, accountability and geographical reach. Large TNCs – with their roots stretching back to the late nineteenth century (Wilkins, 1974) – tended to be clearly identifiable as national firms (e.g. German auto firms). To a greater or lesser extent, the nation state was generally able to govern these national

firms. Underlying this “national” arena of governance was a production system in which intermediate inputs were largely produced and assembled within national boundaries, particularly in high income economies. Industrial policies such as import substituting industrialisation sought, often with considerable success, to deepen the degree of domestic value added, particularly (but of course not exclusively) in unindustrialised low income economies. The corporation both bent to these demands and helped to construct them – they not only exploited tariff-jumping global opportunities but in some cases sought to persuade host governments to introduce legislation favouring domestic production and value added.

However, the pattern of global integration which developed at an increasing pace after WW2 fundamentally altered the pattern and global dispersion of value addition. Instead of production occurring through a series of sequential value-adding steps largely undertaken within national boundaries, production became increasingly fragmented, with highly specialised tasks being undertaken in parallel across the globe. This not only led to a growing spatial divide between production and consumption, but trade between countries was increasingly in sub-components and capabilities, and less and less in final products (UNCTAD 2013).

The second and third factors concern the logistics which facilitated globalised growth. There have been considerable reductions in transport costs which have gone hand-in-hand with the dispersion of GVCs. Reductions in long haul sea and air freight costs have significantly facilitated the movement of goods. Shipping costs were radically reduced through a combination of factors such as containerisation and design changes; air transport costs fell from \$3.87 per ton-kilometre in 1965 to less than \$0.30 in 2000 (World Bank 2009) with the value of air trade increasing by 11.7% p.a. between 1975 – 2004 (WTO 2008). The disruptive impact is not however confined to direct costs. The reduction in lead times arising from an increase in the speed of trade not only lowered indirect costs (for example by allowing for the shrinkage of inventories), but also allowed producers to customise their offerings more closely to consumer needs. Without these cost and time reductions, the fragmentation of products into tasks and the growth of cross-border trade in tasks would have been prohibitively costly.

Allied to this reduction in transport costs there has been a simultaneous increase in the knowledge-intensity of production and in the reduction in costs and growth in speed of the processing and transferring the knowledge component of production. As GVCs have fractured to reflect specialisation in core competences, the lead firms in many of these chains have specialised in the knowledge component of production. The major advances in ICTs have made this specialisation both possible and affordable. ICTs have thus become central to the logistics of GVCs, to the exercise of governance by lead firms and to the appropriation of rent (OECD/WTO 2013).

As will be seen in the case-studies presented in Section 5 below, each of these three disruptive factors played an important role in the structure of

governance of global production, and in the generation, protection and appropriation of global rents.

4. The Role of Four Key Stakeholders in the Governance of GVCs

Historically the nation state played the major role in the governance of production, exchange and rent appropriation. However in the current era of GVC-led globalisation, this hegemonic geographically-located governance power has been undermined. A much more complex pattern of governance has emerged involving an interplay between private and public, and national and international stakeholders.

In discussing the roles played by these key stakeholders, we remind the reader that our primary concern here lies in the distribution of incomes in global value chains, focusing on both geographical and functional (i.e. class) shares.³ This will be determined by the power exercised in these global production networks by two sets of actors. The first are those actors *internal to the chain*, generally in the private sector, but in some cases also state and community owned enterprises. In order to maximise and appropriate chain rents, they utilise their governance power to erect and protect barriers to the entry of competitors. The second set of chain actors - nation states, civil society organisations (CSOs) and supranational institutions - are *external to the chain*. Whilst their exercise of governance in the chain is often targeted at issues beyond income shares (for example, the social and environmental character of GVCs), their actions influence the capacity of the internal chain governors to generate and appropriate chain rents. Moreover, whilst one set of these external chain governors – the nation state – plays a facilitative role in assisting rent generation by the corporate sector, it may also have divergent interests in the distribution of chain rents.⁴

In discussing the governance roles played by these different stakeholders, we draw on constructs of constitutional law and distinguish between three spheres of chain governance – setting the rules which govern the performance of chain participants (“*legislative governance*”), assisting chain participants to act in ways which support the objectives of the lead actors in appropriating chain rents (“*executive governance*”) and then monitoring and sanctioning the performance of different parties in the chain (“*judicial governance*”).

It will become clear in the case studies below that standards and regulations play a key role in GVC governance. Some standards are set by lead firms within their chain. These are private but mandatory standards to ensure

behavioural conformance by supplier firms and customers which influence the competitiveness of the chain as a whole. Examples of these efficiency standards are those governing inventories and quality. A second type are public standards promoted by external agencies (predominantly CSOs) which are designed to influence the nature of the GVC, but are not mandatory for market entry. Examples of these standards are green, fairtrade and child labour standards. The third set of chain standards are those set by external parties (notably nation states and supranational institutions such as the EU) which are public and legally mandatory and which govern market entry. Examples of these standards are those concerned with product safety.

These different types of standards affect rent generation and appropriation in different ways. The third type of standards set a defining arena for rent generation; unless these standards are met, the lead firms and their suppliers cannot participate in the market and there is no scope for rent generation. The first and second types of standards are central to the corporate rent agenda. To the extent that the lead firms and their chains are able to meet these standards better than rivals, they will be able to generate relatively high returns, that is, the rents which arise from differential performance.

In this section, we discuss the rent-affecting roles played by the internal and external governors of value chain in general terms. In Section 5 below, we put flesh (limited of course by length-constraints) to this general discussion through three short case-studies which illustrate not just general trends, but sectoral and temporal specificities. The case-studies also permit us to suggest an hypothesis regarding whose power dominates in the generation, protection and appropriation of rents in GVCs.

³ We are of course aware that there are other dimensions of distribution – so-called “horizontal inequality”, such as gender and ethnicity (Stewart, 2008) - but for economy of argument we will only consider the inter-national and functional distribution of income. The same analytical principles of rent generation and appropriation apply to these wider dimensions of distribution.

⁴ Mayer and Phillips (2017) refer to these two elements of state power as *facilitative* and *distributional* governance.

4.1. The Firm and the exercise of governance over GVCs

By definition, the central business of the lead firm in GVCs is to concentrate on its core competences and to outsource non-core capabilities, generally to an increasingly global spread of suppliers and customers. Which activities it continues to pursue in-house will be determined by its command over the four core areas of rent identified above – its access to resource rents, the generation of endogenous innovation rents, situating its activities in terrains where it benefits from exogenously determined rents, and in the exercise of its market power to limit competition in input and output markets. In each of these cases the lead firm will need to define the rules of the game which determine the roles played by its suppliers and its customers in its chain (legislative governance), to ensure that its suppliers and customers are assisted to meet these standards (executive governance), and that their performance is monitored and then sanctioned, positively or negatively, as circumstances demand.

Legislative governance is a key objective for the lead firm – it determines who is included in its chain, what they do, and what rewards they receive, as well as who is excluded from the chain. Central to this agenda are the standards which the lead firm sets for its suppliers and customers. Typically there will be standards which reflect Triple Bottom Line imperatives. The Economic Bottom Line invariably involves QCD standards (quality, cost, delivery) and specific market entry standards defined by governments and other stakeholders relevant to the chain. Social Bottom Line standards include labour standards and Corporate Social Responsibility standards affecting the chain's social licence to operate. Similar standards are required to meet the Environmental Bottom Line.

Beyond these endogenously determined rents, the lead firm will also seek to maintain whatever rights it has over access to resource rents through negotiations with the "owners" of these resources and the provision of the physical and nonphysical infrastructure required to produce and trade effectively. The lead firm also seeks to ensure that an effective "legislative framework" exists to protect its rents through the exercise of codified Intellectual Property Rights (such as patents and copyright). Finally the lead firm will seek to exercise its control over markets, whether these are input or output markets. Often this takes the lead firm into a grey legal terrain of collusive agreements, but it also includes pricing and other marketing strategies.

Whilst the legislative function is primarily exercised directly by the lead firm itself, the executive function which assists suppliers and customers to meet these standards may be outsourced. Specialist service providers may be employed to help upgrade the supply chain, or first tier suppliers may be tasked with ensuring the upgrading of second- and third-tier suppliers.⁵ Similarly, the instruments defining IPRs and other barriers to entry may also in some cases be the responsibility of specialist service firms.

⁵ During the 1970s and 1980s, Toyota pioneered systems of supply chain management which were subsequently copied widely by other auto firms and by firms in many other sectors (Cusumano, 1985)

The judicial function of monitoring behaviour in the GVC supply chain may also be conducted either in-house or indirectly. What is critical for the lead firm is that this monitoring be accompanied by effective sanctions to ensure compliance with the legislative function of the firm. Thus malperforming suppliers and customers may be subject to financial penalties or, in extremis, be ejected from the chain.⁶

The emphasis given to the various instruments of governance and the extent to which the firms exercise these directly (in-house) or through intermediaries will vary across sectors, time and location, and between different firms in the same GVC. There is no necessary reason why we should expect a uniform structure of corporate governance within and between GVCs. But, in summary, it is central to our argument that, directly or indirectly, the lead firm seeks to ensure that the relevant forms of governance which underwrite its capacity to generate, protect and appropriate rents are exercised.

4.2. Civil Society and the exercise of governance over GVCs

Civil Society Organisations (CSOs) play a growing role in the governance of GVCs and in doing so, have also necessarily become internationalised. The primary role of CSOs in the governance of GVCs lies in the legislative sphere where they have sought to influence the terms on which GVCs operate. With respect to the generation of endogenous rents, the focus has been on the Social and Environmental Bottom Lines, placing pressure on lead firms to meet a series of standards such as those on labour, food safety, transparency and the environment. Some examples are as follows:

- In response to the collapse of the Rana Plaza apparel factory in Bangladesh leading to the loss of 1100 lives, (Birnaum 2013), CSOs campaigned for uniform and better labour standards;
- There is a growing campaign to force pension funds and other organisations to divest from firms exploiting carbon resources;
- CSOs have challenged the barriers to entry which have allowed lead firms to appropriate large shares of chain rents, targeting the nature and duration of IPRs and the regulations affecting tax avoidance and tax evasion;
- CSOs have actively sought to influence the trajectory of government to favour particular sets of producers (for example, SMEs and women).

CSOs have played a more limited role in the executive, implementing function of chain governance. They have generally confirmed their efforts to assisting particular sets of producers such as SMEs, small farmers, and female entrepreneurs to meet the standards which lead firms have introduced and

⁶ "Toyota South Africa requires its suppliers to adhere to minimum performance levels. Failure results in the supplier submitting reports on its corrective interventions. While the supplier is being rehabilitated it is not allowed to quote on new projects. If it continues to fail to meet the minimum standards set it is ultimately removed from the supply chain, knowing that it will struggle to ever supply Toyota again. This is the ultimate sanction – the permanent termination of business relations" (Justin Barnes, personal communication, 14th April 2015).

which are required for them to be incorporated in the GVC (www.capturingthegains.org).

The efforts of CSOs with regard to the judicial function of monitoring GVCs have been sporadic, being more prominent in some sectors (apparel, food and electronics) than others (business process engineering and heavy engineering). These sectoral differences arise from the fact that their capacity to sanction malfeasance has largely been limited to the exercise of "moral suasion", using the threat of reputational damage to sanction lead firms and to force them to comply with the socially set environmental and social standards. Hence their effectiveness has largely been concentrated in higher income markets where consumers are more concerned with the social and environmental character of GVC processes and products and to chains feeding into final consumption markets (for example, apparel rather than mining equipment).

In summary, the relevance of this CSO-determined governance agenda to rent appropriation is that it provides scope for differential performance by the chain – both in terms of costs and in defining market niches – and hence affects the chain's capacity to generate endogenous rents. It also affects the distribution of chain rents between producer rents and consumer surplus (for example, final prices and product safety).

4.3. The Nation State and the exercise of governance over GVCs

The separation of powers between legislative, executive and judicial governance is a longstanding constitutional principle in many countries. As in the case of the corporate sector (where elements of governance may be exercised directly by lead firms or by chosen intermediaries), the institutional design of the governance functions of the nation state may take a number of forms.⁷

In contrast to lead firms who by definition are forced to govern their chains at a global level and CSOs who characteristically work across national boundaries, nation states are by definition focused on the national control of the global operations of GVCs. In a globalised world this necessarily limits their capacity to exercise such governance.

The interventions of nation states in chain performance affects the rent agenda in two ways. On the one hand it affects the arena in which the corporate sector generates rents, including with regard to the trade-off between producer and consumer rents. On the other hand, as will be clear in

⁷ In the US, for example, there is a relatively high degree of institutional power-separation over framing, executing, checking compliance, and imposing malfeasance sanctions between the Congress, Senate, President, and Supreme Court. By contrast, in the UK there is a closer fusion of the legislative and executive functions in the institutions of governance. In both systems, and the majority of other hybrid governance systems, the judicial function tends to stand as an independent body, separated from legislative and executive functions. Mayer and Phillips (2017) also highlight the extent to which this nation-state led governance is in some circumstances, outsourced.

one of the case-studies below, nation states compete directly with lead firms for a share of the rents generated within the chain.

One component of the legislative efforts of nation states is targeted at the standards which the lead firm sets to determine the performance of its operations and those of its suppliers within the home country (for example, on minimum wages). It also affects the nature of the products which lead firms import into the home country from their global supply chains (for example with regard to environmental and safety standards). Similarly, legislation affecting the control of barriers to entry (such as competition law and IPRs) are predominantly directed at the national level. Notwithstanding this preponderant national focus, and often as a response to pressures exerted by CSOs, some national governments have introduced legislation which affects the global operations of lead firms, for example, with regard to the control of corruption and other activities which affect the global appropriation of rents in the chain (see below). But these attempts by nation states to regulate the global operations of lead firms have generally been unambitious and weak, not least because of the limited geographical reach of national government power. Correspondingly, the executive power of the nation state to enforce this legislative regime is geographically limited to national borders.

The role of nation states with regard to the judicial sphere of monitoring and sanctioning chain activities similarly reflects this national sphere of nation-state control. Here, insofar as the state seeks to govern the global components of GVCs (for example, with respect to corruption and the monitoring of product standards), the state relies on its own apparatus for implementing policies within its territorial reach in which the judiciary (and other government departments) performs its function of monitoring and sanctioning national legislation.

One important arena in which the capacity of the nation state to govern and foster rent generation and appropriation in the domestic economy has been played out is with respect to industrial policy. Classically, and stretching back to the early nineteenth century (Chang, 2002), industrial policy was pursued within national borders. Domestic producers were protected against international competition. Their productive capabilities were supported by governments with a range of policies which included preferential purchasing and other instruments designed to foster domestically-owned and domestically-located production. After WW2, with the advance of trade-related specialisation, industrial policy gave greater emphasis to meeting demand in external rather than domestic markets. In some cases, particularly in East Asia, this outward-orientation was supported by a combination of import substituting industrialisation policies (SI) and incentives designed to foster export oriented industrialisation (EOI) (Amsden, 1989; Wade, 1990). However, the capacity of nation states to sustain this pattern of support for local production and ownership was increasingly undermined by the drive of GVCs to extend beyond national economies and the power of TNC lead firms to exercise their governance reach across the globe. This was supported by the advance of neo-liberal policies, bolstered through multilateral and plurilateral inter-state agreements. These both removed the capacity of the nation state

to protect producers from international competition and its capacity to support nationally-based producers through policy-instruments such as subsidies and preferential purchasing. Instead, given the dominance and limits imposed by GVCs the scope, reach and legitimacy of industrial policy has had to be reconfigured. Through engaging with GVC dynamics it has focused on the support of capabilities and upgrading that allow domestic companies to climb up the links of the chain, thereby making it easier to capture the gains and reap the potential benefits from integration into GVCs (Dalle et al. 2013, 2014; Gereffi and Sturgeon 2014; Kaplinsky and Morris 2014; Low and Tijaja 2013).

In summary, the activities of nation states have an important impact in defining the arena for rent generation by the corporate sector and affects both the degree of consumer surplus and the inter-country spread of productive activities and hence rent generation by the corporate sector. However, as we will see below, the interventions of nation states are also focused on the competition for a share of chain rents between it and the corporate sector, and between it and rival nation states.

4.4. Supra-National Institutions and the exercise of governance over GVCs

The multilateral institutions which have had the greatest impact on the generation and appropriation of globally generated rents are the GATT and the WTO whose governance has affected the structure of global trade. The GATT, established in 1947, was a multilateral governance agreement designed to assist the industrialised economies to extend their international market reach through trade. Its primary function was to enhance trade through a deregulation of the barriers to global exchange, by way of a reduction of the customs and other trade barriers which had supported ISI across a range of economies. The GATT rules were sectorally biased, and had the effect of deregulating trade barriers in sectors in which US and European TNCs were competitive, but not in sectors (such as agriculture and textiles) where they faced competition from developing countries.

However this non-binding and partial approach to the regulation of international trade was inadequate to support the extension of global specialisation. In particular, the fracturing of production in GVCs meant that trade was increasingly occurring in intermediates. The production of these intermediates spanned a large range of sectors and the maintenance and extension of this global pattern of production and exchange required a more generalised regulatory system, and one which had the teeth to enforce conformance. The emergence of China as a global participant in this GVC-driven extension of global production and exchange after the mid 1980s accelerated this new structure of global trade. This required a different pattern of global trade governance, culminating in the formation of the WTO in 1995.

The GATT was an ad hoc, voluntary and provisional multilateral agreement which was focused on the legislative sphere of governance, defining the rules of market entry. It embodied very limited measures to monitor conformance and had no capacity to sanction nation states who "refused to play by the GATT rules". By contrast, the WTO's dispute settlement procedures are much

more powerful, faster and more efficient. It also has an increasingly powerful sanctioning capacity. Moreover, in contrast to the GATT, the WTOs purview also spans industrial policy, explicitly ruling out policies such as the favouring of locally-owned firms and domestic sourcing. Hence, whereas the GATT can be seen as a multilateral institution favouring the growth of global specialisation and trade, the WTO goes beyond this to provide a structure which promotes GVC-led global specialisation and trade. However whilst global TNC lead firms need the WTO to de-regulate international trade and industrial policies to foster global trade, nationally based large firms and many developing country governments, are often opposed to this systemic liberalisation. Hence the WTO in practice is itself fraught with contradictions, often leading to major contestation.

A second set of supranational institutions who play a role in the governance of global GVCs are the two major Bretton Woods institutions – the IMF and the World Bank. As in the case of the WTO, their primary contribution has been to reduce state governance of GVCs. They have achieved this through their sustained interventions to remove the trade policy impediments to the advance of GVCs and to undermine the remit and capacity of national governments (particularly in the developing world) to control the operations of the productive sector by implementing industrial policies (Dalle et al. 2013). These efforts have predominantly affected the legislative sphere of chain governance, as the Fund and the Bank have had little capacity to monitor and sanction chain activities. To a limited extent the World Bank has exercised an executive function in assisting producers to meet the standards required by lead firms in GVCs. The IFC, the Bank's lending arm, for example imposes conditionalities relating to various standards (IFC 2012).

A third set of supranational institutions with relevance to the governance of GVCs are regional supranational institutions such as the EU, NAFTA and the emerging TTP grouping in Asia and the now aborted TTIP agreement between the EU and North America. Their role has been largely to reinforce (or sidestep obstacles to) the legislative governance drive of the WTO and the Bretton Woods institutions, but to do this on a regional scale. Hence their "reach" is limited to those countries which are party to their agreement. In some limited cases, they have begun to venture into the sanctioning sphere of global GVC governance, as in the case of the OECD and EUs fledgling efforts to govern the distribution of global chain rents, a topic which we will consider in more detail in Section 6.3 below.

In summary, supranational institutions have predominantly focused on limiting the national state's ability to govern the increasingly pervasive and dominant GVCs which have been driving global trade and integration. In so doing, as will be shown in the case studies which follow, this has affected the rent generating arena in which lead firms govern their global operations, the distribution of gains between corporate and non-corporate actors and the division of rents between different nation states.

5. In reality, who governs GVCs? Three case-studies

The broad trends we have identified in Section 4 are as follows:

In governed GVCs, lead firms seek to govern their value chains so that they are able to generate, protect and appropriate all four forms of rent at a global level. This requires them to ensure that all three forms of governance (legislative, executive and judicial governance) are implemented. They may do this directly themselves, or ensure that these functions are undertaken indirectly by third parties.

As we will see in the case-studies which follow, the three other stakeholders play a more complex role in the rent-arena. To varying degrees they define the framework, and shape the manner, in which different actors in the corporate sector (not just capital, but also labour and other "horizontal groups" such as women) generate rents and compete to maximise their share of GVC rents. The interventions of non-corporate stakeholders may result in an increase in chain rents for some chain actors (for example, in the construction of intellectual property rights regimes (IPRs), but in other cases reduce the extent of chain rents as the corporate sector is required to address the social and environmental outcomes of chain activities.

In addition to framing rent generation, nation states also compete directly with the corporate sector and with other nation states for a share of the rents generated in the chain. As we will see below, this surfaces most graphically in the realm of taxes on chain rents.

As observed above, the nature of these rent-related activities by the four sets of stakeholders is contextual, affected by sector, time and location. This diversity will be evidenced in the case-studies which follow. We have chosen these case-studies not only to show this diversity of governance, but also to make a general argument about governance, GVCs, and rent which we will pursue in the concluding section of this paper. The three case-studies address the governance of health and safety product standards in food GVCs, the governance of overall chain rents through fiscal tax systems, and the control of market rents through competition policy.

5.1 The governance of product safety standards in food GVCs

The distinguishing feature of health and safety standardisation is that as globalisation has unfolded, food safety standards, both in products and production processes, have become generalised and uniform across countries.

Global standards over food safety (the legislative sphere of governance) developed through a co-evolution of corporate standards responding to consumer pressure in individual high income economies and safety standards introduced by national governments in these economies to protect consumer welfare. In the first instance, the implementation of these standards (that is, the executive sphere of governance) was undertaken, directly or indirectly by lead firms or their intermediaries, who also took responsibility for monitoring

chain performance and for sanctioning suppliers who failed to conform to these standards.⁹ Their motive was to both avoid reputational damage and to seek a market advantage by differentiating their offering.⁹ Subsequently, nationally-based CSOs assisted in the execution, monitoring and sanctioning of chain performance.

This co-evolution of national and corporate standard setting increasingly shifted to the global level, involving both supranational institutions and internationalised CSOs. Focusing on the legislative sphere of chain governance, in 1963 the World Health Organisation (WHO) and the Food Agriculture Organisation (FAO) jointly created the Codex Alimentarius.¹⁰ In 2001, EU food retailers created a further voluntary standard, Euro GAP (which subsequently became Global GAP). This incorporated harmonised standards for products and farm processes in fresh fruit and vegetable value chains feeding into European final markets. By 2015 Euro GAP and Global GAP were the most widely compliant farm certification schemes internationally with over 250 members (retailers, suppliers and NGOs) affecting trade into markets which comprised more than 90% of the global population.

Although these supranational institutions are not tasked with the implementation of these standards (executive governance), they play an increasing role in monitoring and sanctioning (judicial governance). For example, Codex has been incorporated into the WTO's Sanitary and Phytosanitary (SPS) Agreement as the relevant standard-setting measure for harmonised food safety. Consequently it has become the benchmark used by the WTO in food trade disputes, and many of its regulatory principles have been incorporated in various national government legislative frameworks, particularly in developed countries.

In summary, we can observe a general coalescence of governance of food safety standards in GVCs involving all of the four major stakeholders. All four sets of stakeholders are active in the legislative sphere; the corporate sector, and to a lesser extent the CSO sector, are responsible for executive governance; and all four sets of stakeholders monitor and sanction chain conformance.

How do these standards affect the capacity of the different stakeholders to

⁹ Although not legally binding, retailers' refusal to buy from non-compliant producers and exporters has dictated broad compliance and rendered these international standards effectively binding as legislated regulations. Failure of global suppliers to comply often results in the ultimate sanction of being excluded from a retailers supply chain.

¹⁰ In many cases retailers add additional specific standards to govern their GVC relationships with global suppliers, deliberately differentiating and using them as a competitive tool, rather than merely adhering to minimum regulations. For example, in the UK market, Tesco's has its own PPL (plant protect product list), Marks and Spencers has a Red and Amber List, Morrisons a MPP (Morrison's plant protection list) and Murrison an ARPD (acute reference dose) list.

¹¹ Codex is a set of codified and harmonised international standards, guidelines, and codes of trade practice in the food industry designed to protect the health of consumers. It also promotes coordination of all food standards work undertaken by international governmental and non-governmental organisations through national and international legal agreements.

generate and appropriate rents?

From the perspective of the lead firms, food process and product standards affect costs of production. They might reduce wastage in production processes, and avoid reputational damage in final markets. Food safety standards also provide access to final markets, often to particularly profitable market niches. But they also involve discrete costs in the organisation of production and in monitoring. To the extent that lead firms are able to ensure that their GVCs achieve these standards more effectively than rivals, their differential performance is a source of chain rents.

CSOs, nation states and supranational institutions provide the arena in which these corporate-sector rents are generated, contributing to the definition of standards and, in some cases, to the monitoring of standards. Where they assist particular producers in meeting these standards (for example, small farmers and woman producers), they affect the distribution of capabilities in the chain and thus the distribution of rents within the chain.

The dominant feature which we wish to highlight in this case-study of food safety standards is the coalescence of governance objectives between all four sets of stakeholders.

5.2. Taxation and the governance of rent appropriation in GVCs

Tax systems evolved in an era in which national or local legislatures controlled domestic economic activity and were designed to capture a share of producer rents for the construction and defence of the social state.¹¹ They are based upon the concept of fiscal jurisdiction which identifies two fiscal principles. The first is the *source principle*. This allows a state to tax a person or a firm on all income derived from all economic activity which is conducted in the country where these activities are located, notwithstanding their country of legal residence. The second is the *residence principle*. This allows a state to impose taxes on any activity of any taxpayer as long as the taxpayer is within its jurisdiction. A "resident" person or firm in this form of fiscal policy is taxed on its world-wide income irrespective of source.

The development of cross-border production systems has long been recognised as a problem for the corporate sector since it faced the danger of being taxed in more than one national jurisdiction for the same set of activities, that is being subject to taxation on both the source and residence principles. Conversely, if neither the residence nor the source country resulted in tax payments, the rate of tax on this globally generated income is zero. Thus was born the idea of the *double tax treaty* in 1927, designed to remove disincentive to global investment and trade. In more than 3,000 tax treaties that have been concluded subsequently, the principle was followed that active income (derived directly from business activities) would be taxed in the

country of source and passive income (interest, dividends, royalties and rent) would be taxed in the country of residence (Avi-Yonah 2014).

Globalisation through the extension of GVCs has often posed insurmountable challenges to the operation of this fiscal system and many of the worlds leading GVC lead firms live in a world of *double-non-taxation*, in other words they pay hardly any tax to any government, whether this be in the source or the residence country. The combination of intra-firm trade in asset-specific intermediates (for example, a gearbox for a VW car is very specific and cannot be priced identically to that for a BMW), the growing knowledge content of production and the advance of low-cost, very fast and opaque ITCs, have meant that nation states are unable to assess and control intra-firm transfer prices. This has disrupted their capacities to distinguish between the source and residency principles which underlie taxation systems. In this environment, the multinational corporate sector is able to manipulate the source, residence or permanent establishment rules and choose a favourable jurisdiction in order to minimise its global tax contribution. Rents have been reallocated from "active" to "passive" incomes. With passive incomes being declared in countries with low or zero tax rates. Firms have been assisted in this by collusion with individual nation states who engage in "wars of incentives" designed to lure lead firms to locate their residence within their boundaries. One indication of the prevalence of this pattern of tax avoidance is that in 2010 5.2% of global FDI "originated" in Barbados, Bermuda and the British Virgin Islands, exceeding the share of Germany (4.8%) and Japan (3.8%) (OECD 2013).

Here we can evidence a very clear pattern of win-lose rent appropriation in GVCs. At one level – the primary level – there is a battle for rent shares between states and the corporate sector. Often, perhaps generally, the winners are lead firms. For example, until 2016, Google's permanent establishment in the United Kingdom (the "source" of its operations) was supported by its "residence" in Ireland where its subsidiary paid significant royalties to a company incorporated in Bermuda (a tax haven).¹² This reduced Google's liability for UK tax in 2012 to £55m on sales of £5.5bn (Hurffington Post 30/11/2013; Daily Telegraph 10/12/2014). It rationalised this structure by declaring that its UK staff were adding little value to its UK sales, despite the fact that average salaries of its staff in the UK exceeded \$240,000, more than double the salaries paid to its Irish employees. Google was not alone in pursuing these policies. In 2016, the OECD estimated that \$240 billion was lost annually in corporate tax as a result of profit shifting to low tax jurisdictions (OECD 2016).

In 2013, in the context of pervasive and growing fiscal deficits in many northern economies, the OECD sought to tackle the problems confronting nationally-based tax systems in its Base Erosion and Profit Shifting Initiative (OECD, 2013). This addressed four problems - the inability of national tax authorities to impose tax on economic activity that is located outside the national territory; tax incentives which foster a race to the bottom; national tax systems not keeping up with how firms in the digital economy add value and generate profits; and the valuation and origin of intangibles such as licensing

¹¹ Until 1914 national taxes accounted for less than 10% of national income in the developed world (Piketty 2014: 474-475). However after WW1 the role of taxation changed dramatically. Between 1920 and 1980, the share of national income that high income countries devoted to social spending increased considerably, financed in part by taxes on corporate profits.

and design. As at the time of writing (2016), there is little evidence that this OECD programme will materially alter this division of rents between states and firms and between different states.

Whilst CSOs are not direct beneficiaries in this win-lose struggle over rent distribution between nation states and the corporate sector and between different nation states, they have played an important role in the monitoring of corporate taxation levels, and in mobilising civil society to sanction malfeasant corporations through consumer protests and boycotts. For example, when it transpired in 2012 that Starbucks' had paid no tax to the UK exchequer since 2009, and that it had only paid £8.6m in corporation tax in the preceding 14 years, public protest compelled a change in policy. In response, Starbucks announced it would pay £20m in tax over 2013/14 (Guardian 23/6/2013).

The primary relevance of taxation policy to the rent agenda is its impact on the distribution of chain rents between the nation state and the corporate sector, and between different nation states.

5.3. Competition law and the governance of market power rents in GVCs

Competition law reflects a tension between on the one hand a concern to curb harms caused to the market by private economic power and on the other hand a concern to limit the excessive use of government regulation over the market (Geiber 2002). The governance of market power has its origins in the US in the nineteenth century, reflecting the desire of the nation state to curb the share of rents captured by the corporate sector, and it is this agenda which will be highlighted in our discussion of competition law. However, more recently, since competition has been seen as the well-spring of innovation, competition law has also been seen as an instrument to curb market power in order to foster economic growth.

The legislative governance of market power began with the Sherman Act antitrust law in the US in the 1890s. This was couched in general terms and for this reason the Federal Courts were tasked with the challenge of developing, executing and enforcing the law on a case-by-case basis. Two Federal agencies were created to enforce the law. These were the Federal Trade Commission established in 1914 and the anti-trust division of the Department of Justice established in 1903. In addition, the US allows private parties to institute civil actions for breach of the legislation which, if successful, can result in the imposition of treble damages, a facility unique to US law. For almost half a century, US anti-trust law was the only national law which dealt with the operations of the market. Hence it had a major influence on the subsequent development of competition law globally over the following 50 years. Over this entire period, US competition law (termed anti-trust law) has focused on the behaviour of firms in the domestic economy.

In 1957, by way of the Treaty of Rome, the six European countries founding the Common Market introduced common provisions to promote competition. The European Commission was empowered to conduct investigations in respect of alleged infringements of these provisions and, if necessary, to impose fines. Its decisions are subject to review by the European Court of

Justice which is tasked to determine whether the European Commission has acted lawfully. A range of sanctions were introduced to support this legislative framework. Critically, as in the case of the US, this EU competition framework applies to the operations of firms within the EU, and not to their extra-EU exercise of market power.

Over the forty years after its introduction, EU competition law widened to promote a range of objectives including economic democracy, fairness, competition in the internal market, and protection of final consumers and small and medium enterprises. However, over the past decade EU competition law has become increasingly influenced by the principles embodied in US jurisprudence, reflecting the influence of the neoliberal Chicago School of Economics on US competition policy (Posner 1979; Cucinotta et al. 2012). This adopted a narrow efficiency standard, referred to as "maximizing consumer welfare" (Gal and Fox 2014). This defines the goal of antitrust as allowing business to be freed of government or judicial intervention unless there is an act complained of that will diminish aggregate consumer welfare by way of a clearly proven case of diminution of output or an increase in price. In other words, the focus has shifted from a concern with market structure and market behaviour, to market performance.

As globalisation has spread and other economies have been drawn into the global market, more than 100 developing economies have passed competition laws during the past 25 years. These reflect the same approach (that is, market performance rather than market structure and behaviour) embodied in the US, and subsequently in EU law. As in the case of the US and UK exemplars, they also confined their remit of their competition law to their domestic economies.

So much for the legislative framework of competition policy. But, as argued earlier in this paper, legislative structure is only one component of governance. Most countries lack the institutional resources and strength to translate the legislation into effective executive and judicial governance, that is to adequately monitor performance and implement the law, and to impose appropriate sanctions on offending businesses. Consequently, many countries have unsuccessfully sought to rely on the US and EU competition systems to try and constrain TNC lead firms operating in their territories, despite the clear limited internal remit of US and EU competitions law.

Hence there is a systemic gap in the capacity of nation states to address the competitive behaviour of firms operating across national boundaries. In F Hoffman-LeRoche v Empagran (2004) the US Supreme Court held that foreign purchasers of a product that is sold by a worldwide cartel cannot invoke US anti-trust law unless they can prove that the harm suffered was caused by cartel activity situated *within* the USA. The EU system is also not legally hospitable to litigants who wish to bring a case before the EU regulatory authorities where there is no EU connection to either the plaintiffs or defendants. Non-US and non-EU governments mirror these policy frameworks. Competition in the global operations of GVCs has thus been largely unregulated.

In recognition of these limits, in 2002 the EU proposed a framework for international competition regulation to take place within the framework of the WTO. Developed countries with mature competition laws would be obliged to assist developing countries, particularly where corporations which are managed and controlled in developed countries were involved. Crucially, it was proposed that global cartels would be prosecuted in the home economies of the lead firms. However, by 2004 the attempt to develop even this restrictive version of an international anti-trust law had been dropped from the WTO agenda, due in part to opposition from developing countries who contended that the proposed WTO competition law would only benefit the EU, the US and Japan in gaining access to their markets and securing cheaper prices for their raw materials (Gerber 2007).

In the face of this failure by both the nation state and supranational institutions to challenge the generation and appropriation of chain rents at a global scale, one CSO has begun to address this important determinant of rent generation (www.internationalcompetitionnetwork.org). The International Competition Network (ICN) is a network of competition regulators which seeks to create some convergence of procedure for premerger notification, the development of substantive standards for assessing mergers, and prevention of cartel activity at a global scale. In general however, CSOs such as the ICN have been unable to impose and police competition regulation, and have been confined to raising public awareness of the rise of global oligopolies and oligopsonies.¹²

The clear conclusion which emerges from this experience with global competition laws, therefore, is that the capacity of lead firms to generate rents through the global operations of their GVCs through the exercise of market power is effectively unconstrained. At best, the legal structures which do exist, focus on the domestic operations of these firms. At worst, even in these cases, the structure of competition law exists on paper, but is poorly executed in practice.

As in the case of taxation policy, the primary relevance of competition policy to the rent agenda is in its effect on the distribution of chain rents between the nation state and the corporate sector, and between different nation states. But through its impact on final product prices and availability, it also plays an important role in the distribution of rents between producers and consumers.

¹² Hollman and Kovacic who are important role players in the ICN remain optimistic that international convergence around a substantive standard for regulation of anti competitive behaviour may still be 'built on reputational and peer pressure' of a kind which has been generated through the workings of the ICN over the past two decades (Hollman and Kovacic 2011).

6. Conclusions: Who Governs GVCs – a tentative general argument

In previous sections of this paper we considered three issues relevant to the governance of rents in GVCs. The first was to distinguish between different categories of rent. We identified rents arising as gifts of nature, rents generated within the chain through innovation, rents made possible by actions of exogenous actors (for example, infrastructure provided by governments), and rents generated by the market power of lead firms. These rents are subject to erosion as barriers to entry are overcome, and hence it is the capacity to handle dynamic rents which determines the longer-term distributional outcomes of GVC growth. Second, we distinguished three spheres of governance (legislative, executive and judicial), and identified the significance of geographical reach and legitimacy. The primary actors in this governance agenda are the lead corporation ("endogenous governors"), and three sets of "exogenous governors", that is CSOs, the nation state and supranational institutions.

And, third, we sought to put flesh to these analytical bones, concluding that as a general rule, and by their nature, in their pursuit of rent generation and appropriation, lead firms seek to tightly govern their GVCs in all three spheres of governance – legislative, executive and judicial. CSOs, nation states and supranational institutions have come to play a growing role in the legislative sphere, but in general, have limited capabilities in both the executive and judicial spheres of chain governance. Moreover, as a general process, we observed that whereas lead firms exercise their governance on a global scale, non-corporate governors tend to be more narrowly focused on the domestic operations of GVCs. This global governance weakness of non-corporate governors frames the arena within which lead firms generate GVC rents. It also affects the distribution of chain rents between the corporate sector and the state, between nation states within countries, and between and within classes.

Nevertheless despite these general conclusions, the pattern of governance is contextual, varying by sector, by geographical space and over time. Thus, in the three brief case-studies which we presented in Section 5, we observed varying outcomes. In one case (food safety), CSOs and national and supranational institutions not only played a relatively active role in exercising power in all three spheres of governance, but often did so in tandem with the corporate sector. On the other hand, in the governance of the appropriation of GVC rents through tax systems, although nation states have a remit to consider the global operations of lead firms, they lack the collective will, institutional capacity, and regulatory frameworks to govern the global operations of lead firms. However, in recent years there has been a trend for nation states to push back against the dominance of lead firms, in part through acting in concert in supranational institutions. In competitions law, which frames both the generation and appropriation of chain rents, there appears to be a structural inability to govern the global operations of lead firms in their GVCs. There appears to be little possibility that the US or the EU

will agree to a set of substantive standards to regulate anti-competitive behaviour of its lead firms in global markets.

The question is whether within this contextual variance, there is a general story to be told, and here we offer a tentative explanation. The perhaps surprising example in the case-studies was that of food safety, where we observed cooperation and an alignment of interests between the four sets of stakeholders. In an increasing number of cases, CSOs cooperate closely with lead firms, and national states and supranational organisations introduce legislative frameworks which govern the global operations of value chains, and which are backed by the capacity to monitor performance and to sanction malfeasant chains. We should be less surprised to see an absence of alignment between governance actors with regard to tax and competition policies. What explains these differences in the governance of GVCs?

We suggest that the explanation for these contrasting developments is that in the food chain there is a confluence of interests between the different sets of stakeholders. Nation states are concerned to protect consumer welfare; CSOs are concerned both with consumer welfare and the welfare of varying actors within the chain; and supranational institutions are not only influenced by the interests of their member states, but seek to establish a common playing field to promote global trade. On the other side of this GVC equation, lead firms have an active interest in the governance of food safety as they structure their global operations to maximise chain rents, compete for consumer market share, and avoid reputational damage from CSOs in the case of non-performance on food standards.

By contrast, the lead firms in GVCs have sharply conflicting and competitive interests to the state and CSOs with regard to tax and competition policy. In these cases, the relatively strong power of the corporate sector prevails and there is an absence of effective CSO, nation state and supranational institutional governance over the generation and appropriation of rents in GVCs.

Thus the general tentative conclusion we draw is that in a new global context where lead firms closely but not uncontestedly govern their GVCs, the power of the nation state and civil society to influence GVC operations has been constrained. The latter's governance ability to influence operations is most successful when it coincides with the interests of the big corporate sector. However where such coincidence of interest does not occur then the stage is set for much sharper forms of conflict between dominant global firms and much weaker stakeholders external to GVCs - national states, CSOs, and even smaller firms in the corporate sector - over various governance agendas.

We offer this as a conclusion which needs further investigation. We are aware of the dangers of sounding too simplistic. The nation state is not an unvariegated tool of large global corporations (Mayer and Phillips, 2017). Rather it is the site of contested power, albeit with unequal influence wielded by the various stakeholders attempting to influence its capacities, direction, functions and operations. Thus, despite the balance of governance power

lying with the lead firm driving GVCs, as we have shown in the case of taxation and competition policy, the balance of power over rents is both contested and dynamic. We have illustrated this through the decision of Starbucks to 'voluntarily' pay more taxes in the UK. In 2016 a few US firms, such as Google and Amazon, have, in the face of sustained pressure, moved the headquarters of their EU operations from tax havens to the UK.¹³ It remains to be seen whether in the context of state-capture by Trump's billionaire in 2017, the fledgling efforts by the US state to introduce legislation to induce firms such as Apple (which in 2016 had liquid assets outside of the USA of more than £200bn) to repatriate offshore taxable income funds to the US will be sustained.

In the final analysis we are dealing with a complex world of interconnectedness between variously unequally powerful social actors. This is why TNCs spend significant resources lobbying and trying to shape state governance, engaging with supranational institutions, influencing and sometimes agreeing to be influenced by CSOs by including them in their own CSR programmes, responding to local firm demands, and participating in international development cooperation interventions. Lead firm governance interests, as they are manifested, are therefore not 'natural' and 'pre-given', but are rather historical reflections of a struggle over the generation and appropriation of GVC rents.

The current era of globalisation simultaneously reflects an era of GVCs expanding beyond the governance of the nation state into a seemingly uncontrolled regulatory space. But it also witnesses a sharpening of nationalist conflicts centred on countries' and citizens' seeming inability to exercise national governance. We live in a world of political turmoil, evident at both the national and global level, and it would be foolhardy to assume that what exists at a given point in time (2016) will forever be cast in stone. We see an increasing groundswell of public opposition to the hegemony of corporate governance power, explicitly focusing on the manner in which global operations inhibit national control in the distribution of globally generated rents. The fundamental question that these contradictions of governance throw up is whether globalisation as we know it has reached its limits and whether this will morph into new forms of governance in the face of dynamic social instability.

¹³ Why to the UK? Because, in the context of wars of incentives between European economies, the UK has relatively low tax rates and is seen to be lenient in its treatment of TNCs. In 2016 the UK government announced that the corporate tax rate would be reduced from 20% to 17% by 2020. Ironically this flies in the face of the UK's initiative in 2015 to reduce the capacity of global tax havens to assist the corporate sector in hiding and reducing their profitability.

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