GLOBAL COMMODITY CHAINS AND PRODUCTION NETWORKS
Understanding uneven development in the global economy
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Introduction: global commodity chains and production networks – understanding uneven development in the global economy

1. Context and motivation

Over the last three decades the global economy, and in particular the organisation of global production and international trade, has changed significantly. This change has a quantitative dimension, as reflected in a considerable rise in trade (as a share of output) and in foreign direct investment (FDI) since the 1980s (Milberg 2004). However, the qualitative change in the structure of international trade and global production is much more significant. Although already the East India Company or the Hudson Bay Company had set up international trade networks as early as during the long ‘sixteenth century’ (Hopkins/Wallerstein 1986), they were distinct in several ways from today’s global production networks. In particular, these companies were primarily concerned with trade and exchange, rather than organising production on a global scale (Gereffi 2005). Today, international trade and global production is increasingly organised in highly fragmented and geographically dispersed production networks where transnational corporations (TNCs) break up the production process in different parts and locate them in different countries. To illustrate the principle, take the example of a computer which is made up of semiconductor chips made in New Mexico (US), Scotland or Malaysia, a disk drive made in the Philippines, Singapore or Thailand, a monitor made in Japan, circuit boards made in China, and finally assembled in Mexico or Hungary (SOMO 2005). Such global production arrangements – which have been referred to as “integration of trade and disintegration of production” (Feenstra 1998) – can be found in many sectors and are mirrored by the rising share of intermediate goods in total trade (Milberg 2004). Hence, the global economy has been trans-
formed into “[...] a highly complex, kaleidoscopic structure involving the fragmentation of many production processes, and their geographical reallocation on a global scale in ways which slice through national boundaries” (Dicken 2003: 9).

Several factors have contributed to these transformations. Since the 1970s TNCs have reoriented their strategies and increasingly engaged in outsourcing and offshoring of production activities to developing countries to lower costs and increase flexibility. This relocation was enabled by a shift to a more outward oriented development model in most parts of the developing world. In the context of the debt crisis in the beginning of the 1980s, many developing countries – some more voluntarily than others – abandoned the import-substituting, state-led industrialisation policies they had adopted in the post-war period and turned to export-oriented industrialisation. This turn was often part of broader reform packages – based on the emerging ‘Washington Consensus’ – that included trade and financial market liberalisation and privatisation of state-owned enterprises driven by the World Bank and the IMF through the conditionalities of their structural adjustment programmes. As a consequence, manufacturing capabilities that had also been built up during the import-substituting industrialisation period became globally available, which is reflected in the proliferation of export processing zones around the developing world. Hence, a ‘new international division of labour’ (Fröbel et al. 1980) emerged that was based on the advances in transport, as well as in information and communication technologies, to fragment the production process and relocate production on a global scale. While in the beginning these efforts remained limited to rather simple, labour-intensive production steps, outsourcing and offshoring arrangements became more complex as the organisational and technological capabilities of TNCs to functionally integrate geographically dispersed activities and the capabilities of certain producers in developing countries grew (Levy 2005).

These transformations in global production and international trade have important implications for countries’ development agendas and the development prospects of firms and countries. Developing countries have increasingly been incorporated into global production networks which has supported the expansion of manufacturing production and export capabilities in these countries. Some, like the so-called ‘Asian Tigers’, achieved
considerable economic progress and could improve their position within the international economic system. Government policies, in particular industrial and trade policies, including selective protection from imports and inward FDI, subsidies for export promotion and very significant checks and controls on businesses which had to meet performance standards to receive subsidies or protection, had an important role in the economic development of these countries (Amsden 2001; Chang 2003). For many other developing countries, however, integration into global production networks – which often followed the “processing, assembly and component manufacture” model (Helleiner 1973) – has not been accompanied by comparable economic progress, and the value added from manufacturing activities performed in global production networks has often not increased markedly compared to previous commodity-based exports (Milberg 2004; Kaplinsky 2005). Thus, the diffusion of manufacturing has resulted in industrial convergence between the developing and the developed world (measured by manufacturing as a percentage of GDP) without corresponding convergence in incomes (Bair 2005: 170; Arrighi et al. 2003). The recent proposal to introduce a new UN category of “least developed manufacturing countries” reflects this dilemma (UNIDO 2009: 2). Key reasons for these developments are the asymmetric market and power structures embodied within global production networks. The increase in globally available manufacturing capabilities has intensified competition at the production stage as many developing countries have embraced the export-oriented model. In this context competitive advantage does not derive from relatively standardised and commodified activities such as manufacturing, but accrues from more ‘intangible’ activities such as R&D and marketing (Gereffi 1994). These critical resources are protected by high entry barriers and characterised by oligopolistic market structures that allow the generation of high rents (Kaplinsky 2005; Levy 2003). The creation and protection of such market positions can not only be explained by a narrow economic efficiency-view but needs to take into account that “market and political power are intertwined” (Levy 2008: 943). Despite these developments, integrating into the global economy via the participation in global production networks continues to be the conventional wisdom for countries’ development progress (see Hess and Phillips/Henderson this issue).
In the light of these transformations, a more organisational, network-centred and multi-scalar framework is central to analyse the organisation and geography of production and trade in the global economy (Bair 2008: 3). Over the past two decades a body of literature has evolved using chain or network frameworks to conceptualise and analyse economic globalisation, and in particular to explain how global production is organised and governed and how this affects the development prospects of firms and regions (Coe/Hess 2007: 2). Widely adopted by sociologists and geographers, chain and network approaches have also attracted interest from economists, anthropologists and historians (Gibbon et al. 2008: 315f). In addition, international organisations such as the United Nations Industrial Development Organization (UNIDO), the International Labour Organisation (ILO), the Economic Commission for Latin America and the Caribbean (ECLAC) and national development agencies, including the British Department for International Development (DFID) and the German Gesellschaft für Technische Zusammenarbeit (GTZ), as well as NGOs, have used chain and network approaches.

Given the rather limited coverage of the subject in academia in the German speaking world so far, the motivation of this special issue is twofold: Firstly, this issue wants to introduce the different chain and networks concepts that have evolved over the past two decades and discuss their usefulness in understanding and conceptualising uneven development. Secondly, it wants to point out the potential of these approaches for analysing how the complex processes in global production and trade function and how they influence development prospects in different sectors and countries. The remainder of this introduction presents the four strands of research which in our view constitute the field of chain and network research and highlights areas which are – to varying degrees – under-developed in current chain/network approaches and which are central to understand uneven development. The last section provides an overview of the papers in this special issue.


2. Chain and network frameworks

A variety of approaches using the chain or network concept has developed over the last two decades. Although the different approaches overlap and share common concerns, they derive from different theoretical and disciplinary domains and place different questions in the centre of analysis (for a detailed discussion see Bair 2005, 2008; Coe et al. 2008; Hess this issue). At least four strands of research can be differentiated, which in our view constitute the field of chain and network research: Commodity Chains, Global Commodity Chains, Global Value Chains and Global Production Networks.

The term Commodity Chain (CC) was first used within the world system theory by Hopkins and Wallerstein. A CC is defined as “a network of labour and production processes whose end result is a finished commodity” (Hopkins/Wallerstein 1986: 159). The world system theory uses a broad approach of CC to analyse capitalistic processes, uneven development and the unequal distribution of surplus-value within chains. The central question is how CCs structure and reproduce a hierarchical world system that consists of core, semi-periphery and periphery. In the centre of the analysis stands the world-systems tradition of macro- and long-range historical analysis. The CC approach stresses that the organisation of production within global commodity chains is not new but that these chains have been global in scope since the foundations of modern capitalism (Bair 2008: 10f). Thus, “trans-state, geographically extensive commodity chains are not a recent phenomenon, dating from say the 1970s or even 1945, they have been an integral part of the functioning of the capitalist world economy since it came into existence in the long sixteenth century” (Wallerstein 2000: 2).

The Global Commodity Chain (GCC) approach builds on the world system theory but also has a background in economic sociology and comparative development studies (Gereffi/Korzeniewicz 1994; Gereffi 1995). GCC research analyses inter-firm networks which connect producers, suppliers and subcontractors and is mainly interested in how global industries are organised and how firms, sectors and countries can upgrade in GCC. A rich stream of empirical literature has evolved that pays specific attention to the role of lead firms and how they govern chains. In contrast to the CC approach, GCCs are viewed as “an emergent organizational form associ-
ated with more recent and qualitatively novel processes of economic integration” (Bair 2005: 157). Gereffi (1994, 1995) points out four dimensions of GCCs: input-output structure, geographical scope, governance structure and institutional context. But the approach has primarily concentrated on the governance dimension. Within the governance dimension two prototypes are differentiated: producer-driven and buyer-driven commodity chains: “The former are characteristic of more capital-intensive industries (e.g. motor vehicles) in which powerful manufacturers control and often own several tiers of vertically-organized suppliers, as opposed to light manufacturing industries (apparel being the classic case), where far-flung subcontracting networks are managed with varying degrees of closeness by designers, retailers and other brand-name firms that market, but do not necessarily make, the products that are sold under their label” (Gereffi 1994: 112). The applicability and utility of this dichotomy has been disputed in the literature and criticised for being too narrow and abstract (see Henderson et al. 2002; Sturgeon 2002).

Initially developed by researchers at the Institute of Development Studies in Sussex, the Global Value Chain (GVC) approach draws on the GCC approach but is also influenced by the international business literature. GVC research focuses on value creation and capture and on analysing governance structures in different industries, with an emphasis on coordination mechanisms and upgrading prospects at the firm level (Gereffi et al. 2001, 2005). GVC scholars criticise the GCC approach on two points: “First, the very description of these chains as commodity chains was questioned, since the term commodity is generally taken to denote either primary products and/or low-value added, basic goods. Second, Gereffi’s original distinction between producer-driven and buyer-driven chains was thought to miss important features of chain governance that were revealed by new studies, suggesting the need for an expanded typology” (Bair 2008: 16f). In Gereffi et al. (2005) a typology of five governance structures that link suppliers to lead firms (hierarchy, captive, relational, modular and market) is developed, drawing on transaction cost economics. Main determinants of this type of governance are the complexity of transactions, the ability to codify transactions and the capabilities of suppliers. However, this fivefold typology has also been criticised in the literature for not being able to capture the dynamics and complexities of various chains and for its limited perspective
on governance, which primarily takes into account internal sector logics and the inter-firm relation between lead firms and first-tier suppliers (Bair 2005; Coe/Hess 2007; Gibbon et al. 2008).

The Global Production Networks (GPN) approach originates in economic geography and attempts to go beyond GCC and GVC research by stressing two differences: “First, GCCs/GVCs are essentially linear structures, whereas GPNs strive to go beyond such linearity to incorporate all kinds of network configuration. Second, GCCs/GVCs focus narrowly on the governance of inter-firm transactions while GPNs attempt to encompass all relevant sets of actors and relationships” (Coe et al. 2008: 4). Thus, GPN research stresses the complexity and non-linearity of relationships between actors involved in global production and takes into account not only the important role of firms and inter-firm networks but also the influence of wider institutional actors (e.g. national and sub-national states, supra-national and international organizations, NGOs, trade unions, business associations; Henderson et al. 2002; Coe et al. 2008). Furthermore, the GPN approach stresses a broader political economy perspective incorporating socio-political structures within which production networks are embedded and which influence them. Bair (2008: 18) states that the GPN approach “is grappling with how to reconcile a macro and structural account of global economic organization with a grounded analysis of how particular firms in specific geographical, institutional and industry contexts organize their activities and their relations with other actors”.

3. Under-developed areas

Despite the roots of the chain/network literature in the world system theory, the initial critical impetus has been partly lost over the last decade, particularly due to the increasing dominance of the GVC approach (Bair 2005; Levy 2008). As Bair (2005: 154) puts it: “contra the macro and holistic perspective of the world-systems approach, much of the recent chains literature [...] has become increasingly oriented analytically towards the meso level of sectoral dynamics and/or the micro level of firm upgrading”. To grasp more fully the uneven nature of contemporary capitalism, a broader approach that departs from the increasingly narrowing agenda
and “discourses of innovation, learning, upgrading and economic growth” (Hess this issue: S.32), as well as from the ontological assumptions that global production networks are generally ‘positive’ forces with regard to industrial upgrading (Phillips/Henderson this issue: S.40), is central. Such an approach needs to be attentive to the following four areas that are – to varying degrees – under-developed in current chain/network approaches.

The current literature has to a large extent focused on the analysis of TNCs and inter-firm relations to the detriment of relationships between firms and non-firm actors. The GPN approach explicitly conceptualises non-firm actors as an integral part of production networks, yet empirical work has not always adequately considered them. The bias towards the state as the key reference frame and actor and the neglect of firms not only in development studies but more generally in social science (Henderson et al. 2002; Fischer/Parnreiter 2007) partly explains why chain/networks research has concentrated on the role of TNCs and inter-firm relations. This ‘reversal’ has certainly allowed to study more thoroughly corporate strategies and related organisational dynamics and how they impact on the shape of production networks. The neglect of other actors is, however, problematic, given their influence. In particular, the role of the state remains central in understanding the configuration of production networks and the development prospects of incorporation into these networks (see Phillips/Henderson and Hildebrand this issue). Despite the common assumption that states have lost power vis-à-vis firms, the real life picture is far more complex and contingent. Strong states can be highly influential, as illustrated by the Chinese state, which has exerted strict control on the entry and activity of foreign firms (Coe et al. 2008: 20). NGOs have shown their potential to influence TNCs’ practices through campaigns exposing working, social and environmental conditions in the production networks of TNCs (Levy 2008). The importance of trade unions varies in different countries and sectors but their conventional strategies have generally lost effectiveness in the context of global production (Bieler et al. 2008) as TNCs’ strategy of organisational and locational fragmentation has weakened the position of labour (Ietto-Gillies 2005). Various contributions have highlighted the significant influence that business lobby groups have had in influencing political decisions, including trade regulation issues (Levy 2008). Supra-national and international organisations such as the EU, the WTO, the World Bank and the IMF are central actors in
global production networks and have considerable influence on the regulative contexts, as discussed next.

These observations on the influential role of non-firm actors in global production networks lead to the second neglected area: the importance of (pre-)existing structures and thus of the institutional and regulative contexts within which production networks are embedded and (re-)produced by firm and non-firm actors (Henderson et al. 2002). As Czaban and Henderson (2003: 174) put it: “[C]ommodity chains link not only firms in different locations, but also the specific social and institutional contexts at the national (sometimes sub-national) level, out of which all firms arise, and in which all – though to varying extents – remain embedded. […] [I]nter-firm networks link societies that exhibit significant social and institutional variation, embody different welfare regimes and have different capacities for state economic management – in short, represent different forms of capitalism”. Besides national (and sub-national) regulations, regulations established by international and supra-national institutions also decisively shape the structures within which production networks are embedded. The Multi-Fibre Agreement (MFA) in the WTO and its phase-out in 2005 constitute a prime example and have had crucial effects on the articulation of production networks in the apparel sector (see Plank/Staritz this issue). The World Bank and the IMF have had strong influence through the conditionalities of their structural adjustment programmes. For instance, in the 1980s cocoa producing countries were forced to liberalise their cocoa sector and to dismantle national regulatory institutions (see Barrientos/Asenso-Okyere this issue). Moreover, the emergence of regional economic blocks has strongly impacted upon the configuration of production networks (Bair 2006; Coe/Hess 2007).

The third neglected area relates to the broader socio-economic effects of global production networks and to the question of whether participation and upgrading in production networks promotes positive developmental outcomes and, if so, who benefits from these outcomes. Much attention has been given to the ‘industrial upgrading’ debate, while the wider social consequences have not been adequately addressed. The conventional view sees global production networks as mechanisms to access global markets and promote upgrading to higher value activities for firms in developing countries. Thus, questions of access to, as well as positions and upgrading
opportunities in global production networks are at the centre of the current research agenda (Fischer/Parnreiter 2007: 113f). However, various studies from different regions and sectors show that there are substantial obstacles to upgrading (see contributions in this issue). Furthermore, upgrading experiences in different regions and sectors suggest that firms which ‘succeed’ in upgrading do not necessarily gain the rewards with which upgrading is generally associated, such as increased profitability and security (Bair 2005: 166; Fitter/Kaplinsky 2001; Kaplinsky 2005). Moreover, as “the upgrading concept is focused narrowly on the issue of firm-level competitiveness within the context of a particular industry, it sheds a very partial light on the critical question of winners and losers in today’s global economy” (Bair 2005: 154). Workers are rarely mentioned in chain and network approaches, as the firm is generally treated as a “black box” (Barrientos 2007; Coe et al. 2008). When mentioned, they are often considered as a homogenous group – despite important differences regarding gender, qualification, ethnicity or status (e.g. informal, migrant, temporary; Barrientos 2007). It is generally assumed that upgrading automatically benefits workers. However, this is not necessarily the case, since the potential rewards from upgrading efforts may not be passed on to workers in the form of higher wages, greater job security or improved working conditions (Knorringa/Pegler 2006; see Plank/Staritz this issue). Firm upgrading may even be based on deteriorating working conditions: “[P]articular strategies to increase the competitiveness of suppliers in global chains may look like upgrading from the vantage point of the firm, but in fact constitute a form of downgrading for the workers involved. […] [T]he adoption of a ‘lean production’ philosophy by lead firms […] has strong (and strongly negative) effects on workers […]. As implemented in these value chains, lean production is transmogriﬁed from a ‘high road’ to competitiveness to a set of practices that entail squeezing employees at the bottom of the chain in order to lower costs and increase ﬂexibility” (Bair 2008: 45).

Finally, despite the centrality of governance structures and power relations in chain and network approaches, surprisingly little effort has been devoted to explicitly conceptualising power. However, power relations are decisive for the articulation of production networks, the position of different actors and their prospects (Henderson et al. 2002; see Lessmeister this issue). Hess (2008), drawing on Allen (1997), tries to address this shortcoming by
looking at conceptions of power used implicitly in different chain/network approaches. The structuralist or realist perception of power sees power as an inscribed capacity of individuals or institutions. For instance, TNCs have power “by virtue of their multi-country operations and the workforce which comprise them as well as the web of nation-state and market relationships which envelops them” (Allen 1997: 60). In the realist conception that prevails within much of the political economy literature, power is seen as asymmetrical, meaning that one actor has ‘power over’ another and power relationships are perceived as a zero-sum game (Allen 1997: 61). The relational or network perception of power, on the other hand, conceives of power as a medium for securing certain ends. In this view, power is generated through network relationships which can lead to (temporary) cooperation and coalitions between actors (Hess 2008: 455). Much of the more policy-oriented GVC literature stresses win-win outcomes, implicitly referring to this ‘power to’-view. Relations between firms in global production networks are embedded within capitalist production and within the dynamics of specific sectors and their competitive pressures. Firms in these sectors are intrinsically different as regards their size, their reach of operations, and their relationships to other firms and non-firm actors. An important aspect of this is that TNCs are able to transcend political and other boundaries while local firms and workers as well as most non-firm actors are restricted to the economic and political space of the local region or the national state (Coe et al. 2008; Ietto-Gillies 2005). Thus, the greater mobility of international capital relative to local capital and labour puts local firms and workers at a disadvantage in terms of power vis-à-vis TNCs and also states (Milberg 2004). But these power asymmetries do not lead to deterministic outcomes. The possibility of supplier firms, workers and non-firm actors, such as states, trade unions, business associations or NGOs, to exercise their own strategies and acquire more power vis-à-vis other actors depends on contingent conditions. Thus, “lead firms rarely, if ever, have a monopoly on […] power” (Henderson et al. 2002: 450). Therefore, an adequate analysis of power in global production networks should involve structuralist and relational aspects, taking into account that power relations are situated within capitalist production and its asymmetries, but are also socially constructed through networks of relations which allow for fluidity and change (Smith 2003). Levy (2008: 951) proposes a further broader perspective on power by highlighting the fact that much
of the governance debate has focused around “economic coordination rather than political contestation or the broader institutions and discursive structures in which markets are embedded. Moreover, the ideologies that constitute and legitimate particular forms of governance, production and income distribution receive little attention”. In this neo-gramscian perspective, Levy highlights the contingent stability of global production networks and the potential for strategic actors to politically contest governance structures and the distribution of benefits.

4. Overview of the special issue

Starting the special issue, Martin Hess’ paper evaluates different chain and network approaches, namely the GCC, GVC and GPN frameworks, with regard to their explanatory power for understanding geographically uneven development. The paper draws on two different perspectives on development – firstly, as a historical process of the expansion of (capitalist) systems of production, circulation and consumption and, secondly, as processes of social intervention and the struggle for securing livelihoods – and calls for a hybrid development research agenda in which chain and networks concepts can play a major role.

The remaining papers use different chain and network approaches to analyse specific sectors and countries sharing some common ground. All of them stress the importance of institutional and regulative contexts as well as of non-firm actors in shaping production networks. Via their sector and country focus they explicitly address some of the under-developed areas identified above to better understand the dynamics of contemporary capitalism and uneven development. In their paper on the Malaysian electronics industry, Richard Phillips and Jeffrey Henderson address the problematic reading of global production networks as a panacea for economic development. Rather, the paper claims, global production networks only provide ‘windows of opportunities’ that must be exploited by national systems of economic governance, and if missed they can trap domestic firms within lower value positions. The paper stresses that industrial upgrading is historically contingent upon the interplay between shifting global production network architectures and local institutional dynamics, including the
important role of the (local) state. Through a study of the Romanian apparel sector and by using an adapted GPN framework taking into account non-firm actors, (pre-)existing structures and workers, the paper of Leonhard Plank and Cornelia Staritz provides insights into how integration into global production networks influences the development prospects of regions, firms and workers and relates to processes of uneven development. The paper shows that integration into global production networks can also lead to ‘downgrading’ and questions the conventional view that participating and even upgrading in global production networks is beneficial for workers. The paper of Stephanie Barrientos and Kwadwo Asenso-Okyere explores how changing dynamics in the cocoa-chocolate value chain, including increased concentration amongst buyers, fragmentation amongst producers and changing consumer awareness on quality, social and environmental sustainability, impact on the Ghanaian cocoa sector. The paper focuses on the critical role that the public cocoa marketing board (COCOBOD) has played in maintaining Ghana’s position as a world producer of high quality cocoa, in negotiating with global buyers and in supporting small-scale producers.

The two remaining papers deal with sectors, namely tourism (services) and aluminium (extractive industries), that have up to now received little attention within chain/network frameworks. The paper of Lars Hildebrand analyses Brazil’s integration into the global commodity chain of aluminium and discusses the ambivalent developmental effects that arise from world market integration strategies in extractive industries. The paper demonstrates that net outcomes of world market integration depend on the structure of the particular commodity chain, especially the type of governance and the distribution of income, as well as on the ability of governments to establish political and institutional frameworks that maximise the capture of value created while minimising social inequality and environmental degradation. Through a study of Moroccan trekking tourism, Ralph Lessmeister’s paper unpacks the ways in which firms are linked to each other in special tourism value chains and reveals the asymmetric dependencies embodied therein and the central role of access to consumer markets and reputation as key resources of power. The paper discusses the importance of differentiating between the concepts of power, coordination and governance and argues that an elaborated conceptualisation of power and power resources
as well as the role of quality conventions is central to understand special interest tourism value chains.

However, there is also a group of developing countries which has not been integrated into global production networks and has remained highly dependent upon agricultural and resource-extractive activities (Gibbon et al. 2008: 318).

References


