From Commodity Chains to Value Chains and Back Again?

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Abstract

This paper assesses the achievements and limitations of the commodity chains framework as it has evolved over the last near-decade, and concludes by suggesting directions for future research. First, I examine the evolution of the chain approach by briefly discussing the differences between the two camps that employ the commodity chain concept: the world-systems school (whose proponents coined the phrase) and the global commodity chain (GCC) camp that has developed around the work of Gary Gereffi and colleagues. Second, I highlight the contributions that the GCC literature has made in the areas of methodology, theory, and policy. Third, I discuss a recent change in nomenclature that has occurred within the GCC camp, as some scholars have argued that the more inclusive language of value chains should replace the more specific concept of commodity chain. In this section, I evaluate the concept of industrial upgrading, which figures prominently in the value chains literature and conclude that while the upgrading problematic is particularly relevant and useful for policy discussions, its micro-orientation focuses our attention narrowly on the firm level, and thus fails to inform a more sociological and comprehensive analysis of the social processes and spatial dynamics of uneven development in the global economy. In the fourth section, I briefly identify fruitful directions for commodity chains research that might address some of the weaknesses inherent in the value chain literature. Specifically I argue that GCC research should focus on the regulatory, institutional, and systemic factors that shape commodity chains and condition the development outcomes associated with them. In laying out this agenda, I draw on a number of recent contributions which suggest that a second generation of commodity chain research can already be discerned.

Arguably, a general consensus has characterized the field of development studies for more than two decades. The failure of state-led industrialization models in much of the former Third World and the debt crisis of the 1980s, as well as the success of East Asia's export-oriented economies, has been interpreted as evidence that integration into the global economy is the only option for developing countries to pursue.[1] While recent criticisms of the neoliberal paradigm have argued that the state still has a role to play in facilitating development (Amsden 2001; Rodrik 2002), even critics of the market-radical versions of the prevailing orthodoxy nevertheless appear to take as self-evident the proposition that the goal for developing countries is increased competitiveness in world markets. In this context, it is not surprising that the global commodity chains (GCC) framework has inspired and oriented a spate of recent scholarship attempting to incorporate analyses of globalization into development studies.

While many observers have noted the "impasse" or "disarray" plaguing development studies since the neoliberal turn across much of the former Third World (Manzo 1991; Portes 1997; Robinson 2002), the GCC approach has been regarded as something of an exception to this general malaise. British sociologist Jeffrey Henderson contends that the GCC framework "foregrounds in news ways the dialectic of possibility and constraint associated with industrialization in the developing world and industrial transformation elsewhere. In so doing it has the capacity to show empirically the nature of the benefits and limitations on economic and social development that derive from the particular forms which global economic linkage takes" (1996: 405; also Raikes et al 2000).[2] Furthermore, the steady increase in contributions to the GCC

[1] A lively debate continues about the lessons to be drawn from the "East Asian miracle", however. As has been widely noted (Amsden 1994; Wade 1996; Berger and Beeson 1998), the World Bank's well-known assessment of the region's success (1993) relied on a partial reading that emphasized the soundness of the region's macroeconomic fundamentals and downplayed the prevalence of factors, such as industrial policy, that departed from neoliberal orthodoxy.

[2] The GCC framework is not without its critics, however. One might summarize these critics as making two main points. First, the empirical scope of this literature is too narrow, with most studies to date focusing primarily on commodity chains in a relatively small number of manufacturing industries and concentrating almost exclusively on only one of the four chain dimensions specified in the framework, (governance structure) at the expense of the other three (Henderson et al. 2002). Second, GCC research has not

literature in recent years is evidence of the framework's value for researchers interested in the organizational dynamics and developmental outcomes of global industries.

This paper assesses the achievements and limitations of the commodity chains framework as it has evolved over the last near-decade, and concludes by suggesting directions for future research. First, I examine the evolution of the chain approach by briefly discussing the differences between the two camps that employ the commodity chain concept: the world-systems school (whose proponents coined the phrase) and the global commodity chain (GCC) camp that has developed around the work of Gary Gereffi and colleagues. Second, I highlight the contributions that the GCC literature has made in the areas of methodology, theory, and policy. Third, I discuss a change in nomenclature that has occurred within the GCC camp, as some scholars have argued that the more inclusive language of value chains should replace the more specific concept of commodity chain. I argue that the recent elaboration of a global value chain theory suggests a further distancing between the earlier commodity chain literature and its more recent value chain variant. Because the concept of industrial upgrading figures prominently in the value chains literature, I offer a critical assessment of the upgrading construct in this section, concluding that it focuses attention too narrowly on the firm level to inform a more sociological and comprehensive analysis of contemporary development processes. In the fourth and final section, I briefly outline fruitful directions for commodity chains research that can address some of the weaknesses inherent in the value chain literature. Specifically I argue that research should focus on the regulatory, institutional, and systemic factors that shape commodity chains and condition the development outcomes associated with them. In laying out this agenda, I draw on a number of

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adequately considered the salience of the broader institutional contexts in which chains operate (Czaban and Henderon 1998; Whitley 1996), nor has it succeeded in locating these networks within the broader structure of a "hierarchical and stratified global system" (Robinson 2002: 1053; see also, Raikes et al. 2000; Dicken et al. 2001). Relatedly, the state remains undertheorized within this framework, as does politics (including the way in which chains are inflected by class and gender) more generally (Smith et al. 2002; Phyne and Mansilla 2003). It is my hope that the preliminary agenda for a second generation of commodity chain research sketched out in the final section of this paper will help address some of these empirical and theoretical lacunae.

recent contributions which suggest that a second generation of commodity chain research can already be discerned.

I. From commodity chains to GCCs

The term commodity chain appears in the opening pages of Wallerstein's *Historical Capitalism*, in which the author summarizes the distinctiveness of capitalism as a historical social system characterized by the "widespread commodification of processes—not merely exchange processes, but production processes, distribution processes and investment processes—that had previously been conducted other than via a 'market'" (1983: 15). Wallerstein goes on to use the term commodity chain to describe the complex ways in which production processes are "linked to one another" (16). In a 1986 article by Wallerstein and Terrence Hopkins analyzing trade and capital flows in the global economy prior to 1800, a commodity chain is defined with greater precision as a "a network of labor and production processes whose end result is a finished commodity" (159). The term also appears in an article by Giovanni Arrighi and Jessica Drangel in the same 1986 issue of *Review*. In their discussion of the core-periphery distinction in the world-economy, Arrighi and Drangel note that this dichotomy "is meant to designate the unequal distributions of rewards among the various activities that constitute the single overarching division of labor defining and bounding the world economy. All these activities are assumed to be integrated in commodity chains" (16).

In 1994, an edited volume by Gary Gereffi and Miguel Korzeniewicz launched a framework for the study of what they called global commodity chains (GCCs). The chapters appearing in *Commodity Chains and Global Capitalism* (including one by Hopkins and Wallerstein) had been given as papers at the 16th annual conference on the Political Economy of the World-System, which took place at Duke University in April, 1992. Although the intellectual lineage of the GCC concept can thus be traced clearly to its roots in the world-systems literature, it is important to note the disjuncture between the tradition of commodity chain research deriving from Wallerstein's formulation and what has been developed by Gary Gereffi and colleagues as the GCC paradigm. Below I briefly discuss two examples of this disjuncture, focusing on differences in opinion between the two camps regarding the nature of globalization and the objective of commodity chain analysis.

Research on commodity chains from a world-systems perspective has focused on the historical reconstruction of the shipping and wheat flour industries during the long sixteenth century, whereas scholars identifying with the GCC approach have taken a sectoral approach to analyzing the inter-organizational dynamics of global industries in today's international economy. The difference in temporal orientation, between the historical approach of the world-systems camp on the one hand and the more contemporary flavor of GCC research on the other, reflects a disagreement between the two schools regarding the novelty and salience of "globalization." World-systems scholars contend that "transstate, 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). In contrast, the latter group views global commodity chains as an emergent organizational form associated with a more recent and qualitatively novel process of economic integration: "One of the central contentions of the GCC approach is that the internationalization of production is becoming increasingly integrated in globalized coordination systems that can be characterized as producer-driven and buyer-driven commodity chains" (Gereffi 1996: 429).[3]

For Gereffi and colleagues, the ascendancy of globalization demands new methods for studying a country's prospects for mobility in the international economy. They argue that the state-centered approaches that have traditionally dominated the study of development fail to

[3] I am grateful to Phil McMichael for pointing out that although the world-systems camp uses the term commodity chains without the "global" modifier, this omission does not suggest a less geographically expansive understanding of the construct. In fact, it suggests just the opposite—its conviction that such chains have been global in scope since the long sixteenth century.

recognize the increasingly significant ways a country's economic performance is affected by participation in integrated internationalized production systems: "Our GCC framework allows us to pose questions about contemporary development issues that are not easily handled by previous paradigms, and permits us to more adequately forge the macro-micro links between processes that are generally assumed to be discreetly contained within global, national, and local units of analysis" (Gereffi, Korzeniewicz, and Korzeniewicz 1994: 2). The principal task of GCC analysis is to explicate the organizational dynamics of global industries in order to understand where, how, and by whom value is created and distributed (Appelbaum and Gereffi 1994). Special attention is paid to the most powerful or "lead firms" in a sector, which are also known as "chain drivers," because of their presumed importance as potential agents of upgrading and development: "One of the major hypotheses of the global commodity chains approach is that development requires linking up with the most significant lead firms in the industry" (Gereffi 2001: 1622).

GCC researchers claim that this approach allows one to look at how a country's developmental prospects are shaped by its participation in international production networks understood as global commodity chains. Its substantive interest in, and analytical emphasis on, national development represents a further break between the GCC framework and the world-systems tradition, as one of the latter's main contentions is that national development is a meaningless concept in a stratified global capitalist economy premised on the exploitation of the periphery and semi-periphery by the wealthy countries of the system's core (Arrighi and Drangel 1986; Wallerstein 1974, 1994). While one may observe minimal mobility between these levels, as individual countries move up or down, what is relevant from the perspective of world-systems theory is the reproduction of this hierarchically structured global capitalist economy.

As Wallerstein has explained because "there is no such thing as 'national development'…the proper entity of comparison" or unit of analysis is the world-system (Wallerstein 1974), not the individual countries that make up the collective whole, and surely less the networks of particular firms that are the primary object of GCC inquiry. Thus, world-systems researchers are interested in the entirety of commodity chains, not their constituent parts. Whereas much of the GCC literature to date is devoted to describing the characteristics of different links of the chain, as well as the relations between them, the world-systems camp contends that it "is the characteristics of the chain as a whole that should be the primary object of investigation, not those of particular boxes, or particular aspects of all boxes" (Wallerstein 2000: 12).

These differences manifest distinct research agendas. World-systems scholars consider the commodity chain "a vital research location" for the study of the capitalist world economy (Wallerstein 2000: 199). For them, the chain construct is useful insofar as it illuminates the dynamics of capital accumulation at a particular point in the evolution of the world-system, and thus one of the major objectives of world-systems research on commodity chains is to develop ways of calculating the total surplus value of a chain and tracing the distribution of that surplus between the various links (or boxes, in Wallerstein's terminology) that comprise it.[4] Identifying different rates of return across the boxes of a particular chain can shed light on the "pattern of complex and shifting investments among different sectors of the economy…, and why being in the industrial sector was not and is not always the most interesting place to be in terms of capital accumulation" (ibid: 7).

Although most reviews of the GCC literature locate its intellectual origins in the world-systems orientation (Dicken et al. 2001; Smith et al. 2002; Phyne and Mansilla 2003) or identify its roots in "radical development theory" (Whitley 1996: 404) or "the dependency tradition of analysis" (Henderson et al. 2002), the GCC camp has moved research on commodity chains away from the type of long-range historical and macro-level analysis typical of the world-systems

[4] Drawing on the work of David Harvey (1982), Smith et al. use a similar language in talking about commodity chains in their recent discussion of macro-regional integration: "Chains of commodity production and selling thus become mechanisms to enable increases in productivity, reductions in the value of labour power and reductions of the turnover time of capital to enhance the extraction of *surplus value*" (2002: 52).

school. Rather, the GCC framework has evolved as a network-based, organizational approach to studying the sectoral dynamics of global industries (Raikes et al. 2000).[5]

One of the main strengths of the GCC framework is that the clear research agenda that proceeds from it has engendered a coherent body of empirical research on global industries. Since the mid-1990s, an international community of scholars has studied a wide variety of commodity chains that range across Asia, Africa, and Latin America, as well as North America and Europe. Among the industries included in this research are tourism, apparel and textiles, footwear, automobiles, electronics, plastics, and a variety of agricultural commodities including fruits, vegetables, coffee and cocoa.[6] While this article will not attempt a comprehensive review of the existing literature oriented by the GCC framework, the next section offers reflections on this past near-decade of research.

II. What have we learned from research on global commodity chains?

In the ten years since the publication of Gereffi and Korzeniewicz's edited volume, *Commodity Chains and Global Capitalism*, a substantial body of work on GCCs has accumulated. It is already possible to identify three significant contributions of this literature in the areas of methodology, theory, and policy-making. First, the development and application of the global commodity chains framework is a *methodological* advance because it provides a way to map and analyze the spatially dispersed and organizationally complex production networks that are an important part of economic globalization. It departs from much of the research in the

[5] As Andrew Schrank has noted, the disjuncture between the world-systems and GCC schools was evident as early as 1995, in a review of *Commodity Chains and Global Capitalism* by Wilma Dunaway and Donald Clelland in the *Journal of World-Systems Research*. They criticize the volume for its developmentalist tone, lamenting that "[w]hat never appears in this book is the key idea that lies at the heart of understanding the international division of labor: unequal exchange. There is little or no attention to the central world-system thesis that exploitation and domination are structured at multiple levels of the commodity chains that are so painstakingly depicted." Cf. McMichael 1995. See also the reply by Korzeniewicz, Gereffi, and Korzeniewicz in the subsequent volume (vol. 2) of the *Journal of World-Systems Research*.

[6] A sample of this literature which gives some indication of the range of industries studied include Bair and Gereffi 2002; Clancy 1998; Fitter and Kaplinsky 2001; Fold 2002; Gibbon 2001; Ponte 2002; Rabach and Kim 1994.

world-systems tradition, in this regard, as the macro-orientation of the latter tends to efface difference within macro-regions, let alone the increasing diversity that exists within national economies, as export-oriented policies promote uneven development trajectories that reinforce existing inequalities within, as well as across, countries. Insofar as GCC research analyzes the activities of particular firms, and especially the chain drivers that play the pivotal role in organizing international production networks, it gives greater weight than a more orthodox world-systems approach would to the role of firms as agents in the global economy.

Second, research on GCCs has contributed at the *theoretical* level to our understanding of the inter-organizational dynamics of contemporary capitalism and, in particular, how power is exercised in global industries. Further elaboration of this point calls for a brief review of the GCC framework. Gereffi identifies four dimensions with respect to which every commodity chain can be analyzed: 1) an input-output structure (the process of transforming raw materials into final products), 2) a territoriality (or geographical scope), 3) a governance structure, and 4) institutional context.[7] As has been noted (Raikes et al. 2000; Henderson et al. 2002), studies of existing GCCs have focused primarily on the governance dimension—that is, the question of which firms in the chain are most able to control various aspects of the production process and how they appropriate and/or distribute the value that is created.

The concept of governance as it is understood in the GCC framework, and as it has been examined in numerous case studies of particular commodity chains, recognizes what much of the literature on flexible specialization or post-fordism has documented—namely, that in the contemporary international economy, dynamics of power and control are not necessarily

[7] In his original elaboration of the GCC framework, Gereffi (1994) identified only the first three dimensions. Institutional context was added later (Gereffi 1995), and remains the least developed dimension. While it is true that the other dimensions of commodity chains have received less empirical attention and thus remain theoretically underdeveloped, the emphasis in the GCC literature on governance stems from Gereffi's interest in how globalization enables new forms of coordination and management, which in turn affect the composition, organization and geography of economic (and particularly industrial) activities. In this way, the development of the governance aspect of global commodity chains has laid the foundation for more detailed investigations of the other dimensions of GCCs that the framework identifies.

correlated with traditional patterns of ownership. The empirical insights afforded by research on the governance dimension of GCCs have helped flush out the meaning of the interfirm network as an organizational form that is neither market nor hierarchy (though it may exhibit characteristics of each).

Perhaps the best known distinction in the GCC literature is the one Gereffi draws between producer-driven (PDCC) and buyer-driven commodity chains (BDCC). 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 by designers, retailers, and other brand-name firms that market, but do not necessarily make, the products that are sold under their label (Gereffi 2001).

While the applicability and utility of the PDCC/BDCC distinction has been disputed (Clancy 1998, Gellert 2003, Henderson et al. 2002), what is most significant about the dichotomy between these ideal types is the theorization of commercial capital (what are often called "big buyers" in the GCC literature) as the power brokers that call the shots for the many firms involved in the buyer-driven commodity chains they control, although they may have little relation to the actual production of goods made on their behalf.[8] While the apparel industry is the best documented case of a buyer-driven commodity chain (Gereffi 1999), a similar governance structure has been identified in the commodity chain for some agricultural products, in this latter case reflecting the increasing power of supermarkets as the relevant big buyer (Dolan and Humphrey 2000). The implications of this finding are particularly salient since the widespread disavowal of import-substituting industrialization strategies in the global South in favor of export-

[8] In their recent discussion of the GCC framework, Henderson et al. criticize this dichotomy between the two types of governance structures, concluding that because the PDCC-BDCC "distinction is intended to refer to sectorally and organizationally specific empirical realities," it is not "an ideal-typical construction." However, this reading is inconsistent with descriptions of the governance forms found in the GCC literature (cf. Gereffi 1994: 96-99).

oriented initiatives that frequently encourage specialization in the kind of labour-intensive, light manufacturing industries characterized by buyer-driven commodity chains.

Third, I want to briefly highlight the *policy implications* of GCC research. As will be discussed in greater detail in the next section, recent work from the so-called value chains perspective, which is related to the GCC framework, has focused on finding ways to leverage the insights afforded by the latter into effective policy interventions that can enable local firms to improve their positions in particular value chains—a process the value chain literature identifies as upgrading: "Understanding how…value chains operate is very important for developing-country firms and policy-makers because the way chains are structured has implications for newcomers. How can economic actors gain access to the skills, competencies and supporting services required to participate in global value chains? What potential is there for firms, industries, and societies from the developing world to 'upgrade' by actively changing the way they are linked to global value chains?" (Gereffi et al. 2001: 2). Local and national governments, as well as international institutions such as the International Labour Organization, have expressed interest in the answers to these questions, viewing the GCC framework as a paradigm that can usefully orient and inform policy (Henderson et al. 2002; Gereffi 2004, forthcoming).

There is another way in which GCC research is being applied in the strategies of a very different constituency—NGOs, such as anti-sweatshop groups that promote "clean clothes" campaigns and organizations supporting other forms of consumer "activism" such as fair trade coffee (Gereffi, Garcia-Johnson and Sasser, 2001).[9] Since the mid-1990s, following several well-publicized cases of labor abuses in U.S., Latin American, and Asian garment factories producing for well-known brand-names such as The Gap, student and consumer groups across North America and Europe have focused on the problem of how to promote labor rights, safe working

[9] For a particularly clear example of this influence, see the 2003 publication "Tehuacan: blue jeans, blue waters, and workers rights" by the Maquila Solidarity Network, which employs a general commodity chain orientation, and also draws substantially and fruitfully (though not uncritically) on GCC studies (particularly Bair and Gereffi 2001).

conditions, and a living wage in global industries dominated by powerful and footloose big buyers on the one hand, and characterized by a workforce that is powerless and largely invisible to the consumer on the other. One significant thrust of this effort has been to create accountability in global industries by identifying the relationships between lead firms and their suppliers and subcontractors around the world, and demanding that the former enforce codes of conduct designed to insure that their products are made in a sweat-free environment. This methodology requires tracing the interfirm networks that a GCC orientation allows one to identify and such "real world" applications of the commodity chains concept are among the most fruitful implications of this research to date.

Despite these achievements, in the remainder of this paper, I argue that important work on commodity chains remains to be done. In the next section, I describe the emerging "global value chains" literature and assess its relationship to the global commodity chain construct. In so doing, I hope to highlight the limitations of this paradigm, and in particular the emphasis that the value chains literature places on firm-level upgrading.

II. From GCCs to value chains?

As is well known, over the course of the 1980s and 1990s an ever growing number of countries in the developing world shifted from import-substituting industrialization strategies to an export-oriented model, which has been promoted by the international financial institutions and the U.S. Treasury Department as one element in a package of reforms consisting of trade liberalization, macroeconomic stabilization, privatization of state-owned enterprises, and financial market deregulation. Not surprisingly, in this context paradigms that shed light on the workings of international trade and production networks have been in high demand. Because the global commodity chain framework seemed particularly well-suited to inform policy debates about the best way for developing countries to access, and benefit from their participation in, foreign markets,[10] it was featured prominently in an International Labour Office research program on globalization and employment in the mid-1990s and has influenced the "cluster strategy" being promoted by the United Nations Economic Commission for Latin America and the Caribbean. These initiatives, as well as the general proliferation in recent years of studies on GCCs and how developing-country producers become incorporated into them, attests to the framework's perceived potential for contributing to the study of globalization.

The GCC paradigm is not alone in this regard, however. In fact, the global commodity chains framework is one of several network- or chain-based approaches to the study of economic globalization popular today. Other constructs that have oriented research programs include international production networks (Borrus, Ernst and Haggard 2000), global production networks, (Ernst 1999; Henderson et al. 2002), global production systems (Milberg 2003), and the French filière concept (Jessop 2000; Raikes et al. 2001). Given this variety of approaches, some have argued that it would be useful to agree upon a common terminology of "value chain analysis" as a way of promoting a research community comprised of scholars studying production networks in the global economy. In fact, such a community already exists in the form of a "global value chain" research network (see www.globalvaluechain.org).

The GCC framework has been identified as one of several network methodologies included within the overarching value chain rubric. In a recent review of the value chain literature that endorses the new terminology, Gereffi et al. explain that "the value-chain concept was adopted over several widely-used alternatives because it was perceived as being the most inclusive of the full range of possible chain activities and end products," although the authors

[10] In this context, it is worth noting a certain elective affinity between neoliberal conceptions of development (i.e. growth via market-driven global integration as opposed to state-led strategies) and the global value chain approach which examines the "possibilities for firms in developing countries to enhance their position in global markets" (Gereffi et. al 2004).

note that “each of the contending concepts…has particular emphases that are important to recognize for a chain analysis of the global economy” (Gereffi et al. 2001).[11]

The special issue of the journal *IDS Bulletin* in which the common value-chain terminology is proposed documents the contributions of value chains research in recent years. This July 2001 issue, entitled “The Value of Value Chains: Spreading the Gains from Globalization,” represents the first attempt to review and compare the findings of different studies on value chains, as part of a larger effort to “develop common parameters for defining different types of value chains and a taxonomy of value chains that can be operationalised through a robust set of indicators” (Gereffi et al 2001: 3). Synthesizing existing research on value chains allows one to identify similarities in the structure and governance of chains across industries. For example, value chains researchers have noted the rise of a particular type of subcontracting network whereby highly competent suppliers assume responsibility for a full range of activities beyond “basic” production (such as design and inventory/logistics management). Although the terminology varies between industries (from turn-key supply in the electronics industry to full-package supply in the apparel industry), a common value chain orientation makes it possible to identify a similar organizational form across sectors (Sturgeon 2001). Thus, as the editors of the special issue on value chains make clear, establishing a shared language among researchers on global industries allows one to recognize analogous developments across distinct sectors that may be obscured by nominal differences in terminology.

However, should one interpret the shift in language from “commodity chain” to “value chain” as more than a matter of mere nomenclature? A recent paper by Gary Gereffi, John Humphrey, and Timothy Sturgeon (2004), in which the authors attempt to develop a theory of value chain governance, suggest that this is the case. In this article, the authors develop a typology of five types of governance structures that describe the network relationships linking

[11] These distinct emphases may be ignored by other observers who take the “contending concepts” as synonymous or interchangeable. For example, Ponte 2002 refers to “global commodity chain analysis (also known as ‘value chain analysis’)”: 1099.

suppliers in global industries to lead firms. This typology is based on the possible combinations resulting from variations (measured as "low" or "high") in three independent variables: the complexity of transactions, the codifiability of information, and the capability of suppliers. The value chain theory of governance suggests that the relationships between lead firms and suppliers differ across sectors, due to the particular characteristics of the production process and the organization of the industry, such as the sophistication and availability of the technology involved, the existence or absence of (technical and process) standards, and the extent to which rapid turnaround time or speed to market is essential to competitiveness.[12] The goal is to explain variation across sectors in terms of how global production is organized and managed, focusing on the key role of transaction costs, including so-called "mundane" transaction costs that arise from coordinating activities along the chain (Baldwin and Clark 2000).[13]

Although the earlier discussion of the value chain framework referred to above (in the 2001 special issue of *IDS Bulletin*) specifically noted the close relationship between the global commodity chain and value chain concepts, Gereffi, Humphrey, and Sturgeon describe the intellectual influences shaping their project differently in this more recent contribution: "For us, the starting point for understanding the changing nature of international trade and industrial organization is contained in the notion of a value-added chain, as developed by international business scholars who have focused on the strategies of both firms and countries in the global economy." Indeed the only reference to the global commodity chains literature that appears in the 2004 paper notes that, while the GCC framework "drew attention to the role of networks in driving the co-evolution of cross-border industrial organization," it "did not adequately specify

[12] Although the authors acknowledge that local, national, and international "institutions and structures matter," they conclude that "the variables internal to our model influence the shape and governance of global value chains in important ways, regardless of the institutional context within which they are situated." Thus while they acknowledge the importance of institutional and regulatory factors, the authors specifically bracket them as external to their explanatory framework.

[13] While both the GCC and GVC frameworks take the organizational field of the industry as their analytical domain, the latter appears to make stronger claims about the sectoral logics of value chains at the industry-level to explain variation *across* industries, whereas the research in the GCC tradition looks to the different business strategies of lead firms as a way to explain variation in commodity chain organization *within* an industry.

the variety of network forms that more recent field research has uncovered."[14] Gereffi, Humphrey, and Sturgeon attempt to address this weakness by developing a theory of value chain governance that not only acknowledges this variation, but attempts to *explain* it by identifying its key determinants. In so doing they provide an agenda for further value chain research, which will include developing ways to operationalize and measure the key independent variables, and eventually formulating and testing hypotheses derived from the theory of value chain governance.

However, one can also identify an important continuity between the earlier and later elaborations of the value chains framework—an interest in firm-level industrial upgrading. Specifically, the central question of interest for value chain researchers is how firms can improve their position within these chains so as to generate and retain more value. In order to achieve this objective, firms need to understand where they fit into the value chains in which they participate. It is here that the insights generated by GCC research on governance are most useful for value chain analysis, and most specifically, as Gereffi argues in his contribution to the *IDS Bulletin* on value chains, the role of lead firms: "The emergence of new forms of value-chain governance is driven by the evolution of organisational capabilities by leading firms in the global economy…In order for countries to succeed in today's international economy, they need to position themselves strategically within…global networks and develop strategies for gaining access to the lead firms in order to improve their position" (2001b: 32).[15] Similarly, in their 2004 *RIPE* article, Gereffi, Humphrey and Sturgeon express their hope that "the theory of global value chain governance that

[14] In his recent contribution to the new edition of the *Handbook of Economic Sociology*, Gereffi places greater emphasis on the similarities between GCC and GVC analysis, noting that the shift to the latter language was essentially a tactical decision designed to avoid two problems with the earlier vocabulary. *Value* chain is preferred to *commodity* chain because it "focuses on value creation and value capture across the full range of possible chain activities and products (goods and services), and because it avoids the limiting connotations of the word 'commodity'" (2004 forthcoming, 18).

[15] Here Gereffi basically restates his earlier hypothesis that "development requires linking up with the most significant lead firms in the industry" (see p. 4 above). One way to translate this formulation into a testable hypothesis is that, among a population of firms, we expect that those with the strongest relationship to the lead firm will have the best development outcome (however defined). In order to test this hypothesis, we would want a research design that includes firms that are connected to the dominant player in the chain as well as those that are not. If we omit the latter from our sample, we are essentially sampling on the dependent variable, and cannot reliably conclude that the lead firm connection is a necessary, let alone sufficient, condition for development.

we develop here will be useful for the crafting of effective policy tools related to industrial upgrading, economic development, employment creation, and poverty alleviation."

At the most basic level, the value chains literature defines upgrading as improving a firm's position within the chain, and this is generally associated with securing more of the value-added through the production process. But how is this objective achieved, and how are upgrading efforts evaluated? One possible avenue for upgrading that value chains research has identified is for a firm to move up the same value chain from a more marginal to more secure position by increasing the range of functions performed. For example, a turn-key or full-package manufacturer is often responsible for additional functions beyond basic production, such as design or logistics management; this is called intra-chain or functional upgrading. Additional types of upgrading include product upgrading (producing more sophisticated goods with higher unit prices) and process upgrading (improving technology and/or production systems). Inter-chain upgrading (moving from one industry to another) is a fourth type of upgrading that has been identified (Gereffi et al 2001; Humphrey and Schmitz 2000).

As studies of various value chains suggest, firms attempting to upgrade via one of these paths often have considerable difficulty in doing so. In large part, this is due to the increasing barriers to entry that exist as one moves along the chain. Central to the power of lead firms, and particularly those that control buyer-driven chains, are activities related to marketing, design, and brand development. Value chain research tells us that firms can upgrade by capturing more of the value created in these links, while also underscoring the significant, and some would argue increasing, obstacles that they face: "As 'intangible' aspects of production (i.e. marketing, brand development, design) become increasingly important for the profitability and power of lead firms, 'tangibles' [production and manufacturing] have become increasingly commodified, leading to new divisions of labor and new hurdles for developing-country producers to overcome if they wish to enter these chains. It is almost certainly a pervasive trend…that the barriers to entry in intangibles are growing faster than those in tangible activities" (Gereffi et al. 2001). Chains research of both the GCC and value chain variety have documented the efforts of firms in various industries to upgrade through one or more of these strategies, documenting their successes as well as their failures (Talbot 1997; Bair and Gereffi 2001; Fitter and Kaplinsky 2001). The result of these efforts is a significant contribution to our understanding of the relationship between chain governance and firm-level upgrading prospects, which is, in turn, "critical to the debate on whether there is a spreading of the gains from globalization (Humphrey and Schmitz 2001: 21).

The contribution of value chains research to the debate about globalization's winners and losers should be obvious from the discussion above. However, there are two distinct, though related limitations with the extant formulation of upgrading that the value chains literature offers. First, value chain research focuses on upgrading primarily at the level of the *individual* firm in the context of a *particular* value chain. As noted earlier, when analyzed in comparative perspective, this approach yields evidence of similar organizational forms characterizing global production networks across different industries (such as the rise of turn-key contract manufacturing in the apparel, auto, and electronics industries, as well as some agro-commodities such as cocoa and coffee). As one value chain scholar has noted, recognizing these similarities requires one to look closely at the micro level in order to identify "the specific bundles of activities that firms are engaged in" (Sturgeon 2001: 15).

However, this firm-level orientation poses a unit of analysis dilemma. How does one translate the process of upgrading at the level of the firm into its implications for the larger units that are traditionally regarded as the spaces or containers of development, such as the local, national, or regional economy? Put differently, how do we aggregate up and out from the firm level? While Gereffi has argued that a country's development prospects are conditioned by how they are incorporated into global industries (1995), how does the nature of a *firm's* insertion into a particular commodity chain map on to a *country's* incorporation into the global economy?[16] The

[16] The Gereffi, Humphrey, and Sturgeon article (2004) contains a similar slippage between the industry, firm and country levels of analysis: "The evolution of global-scale industrial organization affects not only

problem is particularly vexing since, just as virtually every nation is linked to the global economy via more than one export role (Gereffi and Wyman 1990), so too are many firms connected to commodity chains via more than one type of linkage (i.e. as a subcontractor for some clients, a full-package supplier for others, and as a producer of own-brand products for the domestic market).

Second, we need to be more careful in specifying *who* the process of upgrading benefits. For example, what is identified as functional or intra-chain upgrading often describes situations in which suppliers take on additional responsibilities (such as design, logistics management, or distruibution) at the behest of the lead firm. While these suppliers in the commodity chain thereby "add value" from the vantage point of the chain driver, another way to interpret this process is the off-loading of less profitable activities onto more vulnerable firms.[17] The ability of a supplier to add greater value to the lead firm may increase its competitiveness vis-à-vis its rivals (until they develop analogous capabilities), but a number of studies suggest that firms which "succeed" in intra-chain or process upgrading do not necessarily reap the rewards, including increased security and profitability, with which upgrading is ostensibly associated (Bair 2002; Fitter and Kaplinsky 2001; Gibbon 2001; Schrank 2002; Schurman 2001).

Research on the changing position of firms within value chains further suggests that upgrading is often a process of exclusion, particularly in developing countries whose integration into the global economy is recent (Gibbon 2001; Dolan and Humphrey 2000). A comparative study of Kenyan horticulture and Indian textile value chains lead Dolan and Tewari to conclude

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the fortunes of firms and the structure of industries, but also how and why countries advance—or fail to advance—in the global economy."

[17] This outcome was identified in the 1986 article by Arrighi and Drangel. Arrighi and Drangel argue that firms within commodity chains are constantly struggling to insulate themselves from competitive pressures by transferring less profitable activities on to other participants: "…economic actors (irrespective of whether they seek a remuneration for labor-power, assets, or entrepreneurial energies), far from accepting competition as a datum, continuously endeavor to shift, and some succeed in shifting, the pressure of competition from themselves onto other actors. As a result, the nodes or economic activities of each and every commodity chain tend to become polarized into positions from which the pressure of competition has been transferred elsewhere (core-like activities) and positions to which such pressure has been transferred (peripheral activities).": 17

that, although a number of local firms in each sector had been able to upgrade successfully, changes in both value chains associated with process upgrading on the part of the largest firms severely circumscribes the future upgrading prospects of smaller producers and poses the "danger of excluding a large swathe of low-performing domestic firms from the circles where new skills and learning are being generated" (2001: 101).

Finally, more careful specification of who benefits from the process of upgrading requires closer attention to the role of workers as chain participants. As we know from a vast and growing literature, firms that successfully participate in global value chains may not deliver benefits to workers in the form of higher wages, greater job security, or improved working conditions (Bair 2002; Ponte 2002; Talbot 1997; Wood 2001). Paying more serious attention to labor than it has been given to date is necessary to fulfill what the proponents of value-chain analysis suggest is one of its primary objectives: to map the distributional incomes resulting from participation in international production networks (Fitter and Kaplinsky 2001). However, beyond looking at the extent to which workers benefit from processes of upgrading in terms of how value is *distributed* along the chain, discussions of upgrading also need to examine how workers contribute to the *creation* of value in terms of the labor process (Smith et al. 2002; cf. Bair and Ramsay 2001).

While the upgrading construct is attractive as a heuristic for talking about mobility along the value chain, it is too narrow a concept to answer the range of questions the value chain perspective claims to address regarding "the winners and losers in the globalisation process, how and why the gains from globalisation are spread, and how the numbers of gainers can be increased" (Gereffi et al. 2001: 2). The framework's proponents recognize "the numerous downsides to globalisation, including falling prices for producers and cases where upgrading of products or processes does not necessarily lead to increased profits and sustainable incomes" (ibid), but in order to understand these downsides we need to expand the scope of inquiry beyond the level of the firm, the value chain, or even the sector. In the fourth and final section of this paper, I outline several ways in which commodity chains research might be advanced through a discussion of existing literature that suggests a second generation of GCC research is already evolving.

IV. Beyond value chains: A research agenda for the second generation of GCC research

The next generation of GCC research should focus on complementing the paradigm's existing strength as a framework that allows us to conceptualize and study global capitalism as it is manifest in particular inter-firm networks that link economic actors across space. As noted above, the most significant theoretical progress claimed by the first generation of GCC research is a much better understanding of the governance structure of commodity chains in terms of the power exercised by lead firms, and the implications of a chain's governance structure for the upgrading prospects of actors in the chain. While the sectoral logics and interorganizational dynamics of these networks across different industries are increasingly clear, what we need to study more closely are the factors *external* to chains that shape their geography and configuration, and may strongly affect the extent to which different actors benefit from participation in them.[18] There are three sets of such factors that I will briefly discuss below: regulatory, institutional, and systemic.

Regulatory factors, particularly trade policy, shape the geography and configuration of many commodity chains in the global economy. The regulatory context in which international production networks are established and operate is an important element affecting the extent to which developing country exporters in particular benefit from their participation in commodity chains. For example, while Gereffi, Humphrey and Sturgeon emphasize the modular governance structure of the fresh vegetable value chain in explaining the relationship between African exporters and British importers (2004: 12-13), Chris Stevens argues that "the past success

[18] By factors "external" to the chain, I mean to differentiate these from the sectoral characteristics privileged in the existing value chains theory, which refer to the micro linkages of production processes and transaction costs along the chain.

of…African horticultural producers may not be *only* the consequences of having met the demanding technical standards of the UK supermarkets that are the dominant force in the buyer-driven value chain…Meeting technical requirements may be a necessary but not sufficient condition. Trade analysis suggests that past European Union (EU) trade policy has effectively excluded many of the most important global suppliers from the UK market" (2001: 46). Stevens' analysis of the EU market for agricultural products shows that trade policy rents in this sector influence the value chains linking suppliers to European markets, and concludes that this is likely to remain the case in the future, despite the halting trend towards liberalization under the WTO and the reforms of the EU's Common Agricultural Policy.

Stefano Ponte's study of the coffee chain similarly underscores the importance of regulatory factors, in this case the existence and then demise of the international coffee agreements (ICA) which governed trade in this commodity and which influenced the distribution of profits along the coffee chain. Ponte documents how changes in the ICA regime have negatively affected developing country exporters: "From a balanced contest between producing and consuming countries within the politics of international coffee agreements, power relations shifted to the advantage of transnational corporations. A relatively stable institutional environment where proportions of generated income were fairly distributed between producing and consuming countries turned into one that is more informal, unstable, and unequal" (2002: 1099; also Talbot 1997).

Jennifer Bair and Gary Gereffi's research on the North American apparel commodity chain suggests how changes in regulatory context can reshape global commodity chains. They have shown that the dramatic increase in apparel exports from Mexico after 1994 reflected the response of leading U.S. textile and clothing companies to the new trade regime of the North American Free Trade Agreement (NAFTA) (Gereffi 1997; Gereffi and Bair 1998).[19] Lead firms

[19] The research also drew on earlier work analyzing the dynamics of the apparel commodity chain and its relevance for upgrading and development trajectories in East Asia (Appelbaum and Gereffi 1994).

controlling the apparel commodity chain reconfigured their international sourcing and production networks to take advantage of NAFTA's new rules of origin affecting trade in textile products in North America. The initial post-NAFTA boom in apparel exports from Mexico and, to a lesser extent, the expansion of local textile production signaled the rise of "full-package production" in Mexico, as U.S. buyers sought to decrease their dependence on Asian manufacturers in favor of near-by producers south of the border whose fabrics and garments receive preferential access to the U.S. market (Bair and Gereffi 2002).[20]

Bair and Gereffi's research on the North American textile-apparel complex further underscore the importance of *institutional context* as a factor affecting rather (or which) firms and workers benefit from their participation in commodity chains. Having identified the emergence of full-package networks as a post-NAFTA organizational form linking Mexican exporters and U.S. buyers, Bair and Gereffi analyzed data from fieldwork conducted in Mexico in order to see if the process of industrial upgrading at the firm level that they identified (as implied by the shift from the maquila to full-package model) generated positive development outcomes in the various production centers that are home to Mexico's garment exporters (Bair 2001; Bair and Gereffi 2001). As the most recent addition to this body of work has emphasized, the spatial unevenness of Mexico's export boom, and the devastating implications of the U.S. economic downturn for Mexican exporters, underscore the precariousness and contingency of the positive developmental outcomes this export dynamism generated (Bair and Gereffi 2003).

In the apparel industry, as well as in Mexico's other leading export industries, the institutional environment of Mexico's contemporary political economy is of great relevance when evaluating the extent to which capital and labor have benefited from their participation in post-

[20] However, Mexico's competitive position in the U.S. apparel market has been substantially eroded by China's entrance into the World Trade Organization and the continuing phase-in of the Agreement on Textiles and Clothing (ATC). Patterns of trade in the global apparel industry today continue to reflect the regulatory legacy of the Multifibre Arrangement, and therefore widespread reconfiguration of apparel commodity chains is expected when all remaining quotas on textile products are lifted in 2005. See Begg et al 2003 for a comparable discussion of how changes in the trade regime affected the organization of apparel production in East-Central Europe.

NAFTA commodity chains. Nancy Plankey Videla's case study of a large Mexican apparel firm yields complementary findings, which demonstrate the various factors that constrain the upgrading efforts of developing country firms. The company that is the subject of her study, "Moctezuma," successfully upgraded in the sense that it adopted "organizational, technological, and product innovations with the objective of capturing higher value-added activities" (2003: 1).[21] However, Plankey Videla concludes that the firm's inability to translate this process into a foundation for sustainable competitiveness capable of generating benefits for the firm's owners and workers has as much to do with the pressures characteristic of Mexico's contemporary business environment (and particularly a banking system that fails to make adequate amounts if affordable credit available to domestic firms)as with the organizational dynamics of the particular commodity chains in which this firm was participating.[22]

The importance of the institutional and political-economic context in which global commodity chains "touch down" locally is hardly confined to the Mexican apparel industry. In their study of the Chilean salmon farming industry, Phyne and Mansilla demonstrate that the relationship between the different links in this commodity chain, and in particular the organization of work in Chile's salmon farms, reflect in large measure the "historically-derived social relations in the Chilean countryside" (2003: 113). Phyne and Mansilla's analysis highlights the importance of Chile's class structure and local power relations in explaining both the organization of the export-oriented aquaculture industry and the extent to which domestic capital

[21] In explaining why "Moctezuma" attempted such an ambitious upgrading program when it did not appear to be in need it, Plankey Videla notes the importance of isomorphic pressures created by private consulting firms, international financial institutions, and state or local development agencies that encourage firms to undertake the type of restructuring that occurred at "Moctezuma." Research on GCCs in developing countries (or the transition economies) should pay particular attention to the mimetic and normative force that the upgrading discourse can assume, especially when that discourse derives as much from the dissemination of "applied" value chain analysis as from popular management philosophies.

[22] Plankey Videla's work also highlights the downside of the governance structure characteristic of buyer-driven chains. "Moctezuma" reorganized along lean production lines at the behest of the "big buyers" whose increased control over the commodity chain allows them to make ever greater demands on suppliers like "Moctezuma", although they are often unwilling or unable to provide them with the increased technical and/or financial support necessary to fulfill these expectations (Collins 2001;Dussel Peters, Ruiz Duran, and Piore 2002; Humphrey and Schmitz 2001).

and labor have benefited from the expansion of salmon farming in particular communities. One of the lessons to draw from their studies is that “[e]conomic actors…are always embedded in dense social and institutional networks of relations (including labour relations and state regulations) at both national and local levels, and these relations impinge in important ways upon the variability of economic development outcomes across space” (Smith et al. 2002).

In a very different geographic and industrial case, Paul Gellert’s analysis of Indonesia’s participation in the timber commodity chain, which emphasizes the importance of politics in shaping commodity chains, makes a similar point. Gellert shows how an oligopoly of timber-producing firms that forged an alliance with the state created an industrial association that effectively “upgraded” Indonesian firms along the chain from exporting timber to manufacturing plywood. The key figure in Gellert’s story is a politically well-connected industrialist, Mohammad “Bob” Hassan, who transformed his “long personal and working relationship with President Suharto” into an effective institutional promotion of the Indonesian industry and an alliance with a Japanese trading company. Gellert argues that the ability of Indonesia to become a major exporter in the global (particularly Japanese) timber market reflects the “personal power of Hasan through his patron-client relations with President Suharto” (2003: 67).[23]

While most GCC research has focused on developing countries in Asia, Latin America, and to a lesser extent Africa, the economies of Eastern Europe and the post-Soviet space may provide particularly fertile empirical ground for understanding how institutional contexts shape commodity chains. Obviously, as a result of massive restructuring and reform in the “transition economies” over the course of the 1990s, firms in the post-socialist space have become incorporated into commodity chains in new ways. Global commodity chain analysis can help shed light on this process of incorporation and its possible consequences, but GCC research needs

[23] Gellert underscores the implications of his analysis for the upgrading construct when he argues that although one might interpret Indonesia’s shift from timber exporter to plywood producer as a move up the commodity chain, “moving ‘up’ involves neither real movement nor, especially, national movement (as the image implies) as much as the capture of value-added or surplus value by particular actors as a result of political struggle along the chain”: (2003: 55).

to be attentive to the particular ways in which “new” organizational forms are shaped by pre-existing institutional configurations (Stark 1992; Czaban and Henderson 1998; Sadler and Swain 1994). If commodity chains are understood as “situationally specific and socially constructed” (Gereffi, Korzeniewicz and Korzeniewicz 1994: 2), then how is the embeddedness of these networks in the larger institutional environment demonstrated? To what extent do commodity chains as a whole as well as their constituent parts exhibit features of path dependency?

Finally, insofar as the GCC framework is understood as a methodology for studying the dynamics and consequences of a capitalist world economy, research in this vein will do well to devote more attention on the *systemic properties* of contemporary capitalism. Can we explain similarities in the development of different commodity chains across industries in terms of systemic processes? For example, can we articulate the increasing salience of buyer-driven commodity chains with an analysis of structural transformation in the global economy?

As the literature on globalization has proliferated in recent years, many commentators have offered their interpretations of what has emerged as the cultural and economic form following the crisis of U.S. hegemony in the late 1970s, be it “the network society,” a postmodern capitalism characterized by “time-space compression,” or “empire” (Castells 2000; Harvey 1989; Hardt and Negri 2000). One set of analyses has focused on the “financialization” of global capitalism under U.S. auspices as the key to understanding the numerous phenomenon associated with the contemporary period: deindustrialization in the core economies, the East Asian “miracle” on the one hand and Latin America’s “lost decade” on the other, and the rise of the Washington Consensus, which codified the set of policy prescriptions facilitating the shift from the development project to the globalization project (Arrighi 1994, Arrighi and Silver 1999, McMichael 2000). Arrighi, Silver and Brewer (2003) offer this argument in explaining why the rapid and widespread diffusion of manufacturing in the Third World over the last twenty years has resulted in industrial convergence between the global North and South (as measured by manufacturing as a percentage of GDP) without a corresponding process of convergence in the income gap separating the former from the latter. Their analysis raises important insights that should challenge scholars of commodity or value chains to theorize the spatial and temporal limits of "industrial upgrading" in a contemporary global economy characterized by excess capacity in manufacturing.

Arrighi, Silver and Brewer favor a Schumpeterian analysis in explaining why much of the developing world, despite rapid industrialization, has failed to narrow the North-South gap. Schumpeter's theory of creative destruction contends that "major profit-oriented innovations are the fundamental impulse that generates and sustains competitive pressures in a capitalist economy" (2003: 16). Schumpeter emphasizes the temporal cycle of this process, identifying periods of "industrial revolution and the absorption of its effects" as the alternating phases of "long waves in economic activity" (1976: 67), but Arrighi, Silver, and Brewer suggest that while Schumpeter argues that "profit-oriented innovations…cluster *in time*," one might also explore their *spatial* clustering in order to understand how the North-South divide is reproduced under global capitalism. Profit-oriented innovation tends to originate in the wealthier countries of the developed world, and as Vernon (1966; 1971) recognized, when new technologies and processes mature and diffuse to the poorer countries, "they tend to be subject to intense competition and no longer bring the high returns they did in the wealthier countries" (Arrighi. Silver and Brewer 2003: 18).

For Schumpeter, the process of creative destruction was the essence of capitalism's evolutionary character, as "a form or method of economic change" that "not only over never is but never can be stationary" (1976: 82). Competition between firms to innovate characterizes all global commodity chains, but as Arrighi, Silver, and Brewer emphasize the process of creative destruction has a spatial element whereby successful innovation does not occur randomly, but is much more likely to cluster in the wealthier countries of the global North. One fruitful direction for GCC research would be to apply the chain concept to explain how dynamics of power and profitability in global industries differentially shape the returns to firms participating in commodity chains, particularly those from developing countries.

In this recent article, Arrighi points to the same research question suggested in his 1986 article with Jessica Drangel: can one explain the stratification of the world-economy through the construct of global commodity chains? In this earlier article, the authors hypothesize that a country's position in the world-economy reflects the mix of "core" and "peripheral" activities it (or presumably its firms) perform in the various commodity chains in which it is involved. Arrighi and Drangel are interested in ascertaining the extent to which the stratified structure of the world-economy has changed over time, and rather this suggests a process of "catch-up" between the semi-periphery and the countries of the advanced, capitalist core. It is not clear from their analysis how the profile of activities being performed at the country (or firm) level aggregate up to the national economy's position in the world-system, nor do they explore in detail the question of what constitutes core versus peripheral activities. However their discussion suggests that the degree of competition characterizing a node in the chain determines an activity's status as either core or peripheral. Widespread industrialization in the semi-periphery and even much of the periphery means that the links in the commodity chain having to do with the actual production or manufacturing process are characterized by increasing competition, leading to the observed outcome that "the industrialization of the semiperiphery and periphery has ultimately been a channel, not of subversion, but of reproduction of the hierarchy of the world-economy" (56).

A commodity chains approach can contribute to this line of inquiry by allowing us to study how patterns of inequality between the global North and South are reproduced, in part, by the organization of international production networks and the relationships between firms located at different points in global commodity chains. Existing research on the competitive dynamics of chains, such as the various types of rents generated through the process of upgrading, which serve as barriers to entry for potential competitors (Schmitz and Knorringa 1999; Kaplinsky 2000), can inform this research agenda. In fact, asking how commodity chains reproduce and reinforce inequality in the global economy can be read as the obverse but apposite question of the one that orients current value chain research: how can developing countries leverage participation in these chains to benefit various constituencies, including firms, workers, and communities. Regardless of which way we ask the question, I have tried to argue in this paper that the second generation of commodity chains research should expand the scope of analysis to include the various factors external to the chain—including the regulatory, institutional, and systemic contexts in which they operate—affecting the organization of these chains as well as the developmental outcomes associated with them. While this next generation of research should build on the impressive achievements of the first, the value of the GCC approach can be strengthened by paying greater attention to these factors, and how they mediate the implications of participation in commodity chains for firms and workers in the global economy. This will advance our understanding not only of how commodity chain dynamics might be leveraged to advance the goal of firm-level industrial upgrading, but also how these chains, and the political and social relations in which they are embedded, contribute to the process of uneven development characterizing contemporary global capitalism.

Works cited

Amsden, Alice (1994) “Why Isn’t the Whole World Experimenting with the East Asian Model to Develop?: Review of *The East Asian Miracle*. *World Development* 22, 4: 627-633.

Amsden, Alice (2001) *The Rise of the Rest: Challenges to the West from Late-Industrialization Economies*. New York: Oxford University Press.

Arrighi, Giovanni (1994) *The Long Twentieth Century: Money, Power and the Origins of Our Times*. London: Verso.

Arrighi, Giovanni and Jessica Drangel (1986) “The Stratification of the World-Economy.” *Review* X (1): 9-74.

Arrighi, Giovanni and Beverly Silver (1999) *Chaos and Governance in the Modern World System*. Minneapolis, MN: University of Minnesota Press.

Arrighi, Giovanni, Beverly Silver, and Benjamin Brewer (2003) “Industrial Convergence, Globalization and the Persistence of the North-South Divide.” *Studies in Comparative International Development* 38, 1: 3-31.

Appelbaum, Richard and Gary Gereffi (1994) “Power and Profits in the apparel commodity chain.” Pp. 42-62 in *Global Production: The Apparel Industry in the Pacific Rim*, Edna Bonacich, Lucie Cheng, Norma Chinchilla, Nora Hamilton, and Paul Ong (eds.). Philadelphia, PA: Temple University Press.

Bair, Jennifer (2001) “Casos exitosos de pequeñas y medianas empresas en México: la industria del vestido en Aguascalientes.” Pp. 63-105 in *Claroscuros: Integración exitosa de las pequeñas y medianas empresas en México*, Enrique Dussel Peters, ed. Santiago de Chile: United Nations Economic Commission for Latin America and the Caribbean.

Bair, Jennifer (2002) “Is Mexico sewing up development? NAFTA and the North American apparel industry.” PhD Dissertation, Department of Sociology, Duke University.

Bair, Jennifer and Gary Gereffi (2001) “Local clusters in global chains: the causes and consequences of export dynamism in Torreon's blue jeans industry.” *World Development* 29, 11 (November): 1885-1903.

Bair, Jennifer and Gary Gereffi (2002) “NAFTA and the apparel commodity chain: corporate strategies, inter-firm networks, and local development.” Pp. 23-50 in *Free Trade and Uneven Development: The North American Apparel Industry after NAFTA*, Gary Gereffi, David Spener, and Jennifer Bair (eds.) Philadelphia, PA: Temple University Press.

Bair, Jennifer and Gary Gereffi (2003) “Upgrading, Uneven Development, and Jobs in the North American Apparel Industry.” *Global Networks* 3, 2: 143-169.

Bair, Jenifer and Harvie Ramsay (2001) “Global Production Networks: A Commodity Chain Analysis and its Implications for Labor.” In *Multinational Companies and Transnational Workplace Issues*, William Cooke, ed. Westport, CT: Praeger.

Barrett, Gene, Mauricio I. Caniggia, and Lorna Read (2002) “There are More Vets than Doctors in Chile.” *World Development* 30, 11: 1951-1965.

Begg, Bob, John Pickles, and Adrian Smith (2003) “Cutting It: European integration, trade regimes, and the reconfiguration of East-Central European apparel production.” *Environment and Planning A* 35: 2191-2207.

Berger, Mark and Mark Besson (1998) “Lineages of Liberalism and miracles of modernization: The World Bank, the east Asian Trajectory and the international development debate.” *Third World Quarterly* 19, 3: 487-504.

Bonacich, Edna and Richard Appelbaum (2000) *Behind the Label*. Berkeley, CA: University of California Press.

Borrus, Michael, Dieter Ernst, and Stephen Haggard (2000) *International Production Networks in Asia: Rivalry or Riches?* London: Routledge.

Castells, Manuel (2000) *The Rise of the Network Society*, 2nd edition. Oxford: Blackwell.

Clancy, Michael (1998) "Commodity chains, services and development: theory and preliminary evidence from the tourism industry." *Review of International Political Economy* 5 (1): 133-148.

Collins, Jane (2001) “Flexible Specialization and the Garment Industry.” *Competition and Change* 5: 165-200.

Czaban, Laszlo and Jeffrey Henderson (1998) “Globalisation, institutional legacies and industrial transformation in Eastern Europe.” *Economy and Society* 27, 4: 585-613.

Dicken, Peter, Philip F. Kelly, Kris Olds, and Henry Wai-Chung Yeung (2001), "Chains and networks, territories and scales: towards a relational framework for analysing the global economy." *Global Networks* 1 (2): 89-112.

Dicken, Peter and Nigel Thrift (1992) “The organization of production and the production of organization: why business enterprises matter in the study of geographical industrialization.” *Transations of the Institute of British Geographers* 17: 279-291.

Dolan, Catherine and John Humphrey (2000) “Governance and trade in fresh vegetables: the impact of UK supermarkets on the African horticulture industry.” *Journal of Development Studies* 37, 2: 147-176.

Dolan, Catherine and Meenu Tewari (2001) “From What we Wear to What we Eat: Upgrading in Global Value Chains.” *IDS Bulletin* 32, 3: 94-104.

Dunaway, Wilma A. and Donald Cleeland (1995) Review of *Commodity Chains and Global Capitalism*. *Journal of World Systems Research* 1; available at http://jwsr.ucr.edu/archive/vol1/v1_r5.php.

Dussel Peters, Enrique, Clemente Ruiz Durán, and Michael Piore (2002) “Learning and the Limits of Foreign Partners as Teachers.” Pp. 234-245 in *Free Trade and Uneven*

Development: The North American Apparel Industry after NAFTA, Gary Gereffi, David Spener, and Jennifer Bair (eds.) Philadelphia, PA: Temple University Press.

Ernst, Dieter (1999) “Globalization and the changing geography of innovation systems.” Paper presented at the Workshop on the Political Economy of Technology in Developing Countries, Brighton, October 8-9.

Fitter, Robert and Raphael Kaplinsky (2001) “Who gains from product rents as the coffee market becomes more differentiated?” *IDS Bulletin* 32, 3: 69-82.

Ford, Nels (2002) “Lead Firms and Competition in ‘Bi-polar’ Commodity Chains: Grinders and Branders in the Global Cocoa-chocolate Industry.” *Journal of Agrarian Change*. 2, 2: 228-247.

Gellert, Paul (2003) “Renegotiating a Timber Commodity Chain: Lessons from Indonesia on the Political Construction of Commodity Chains.” *Sociological Forum* 18, 1: 53-84.

Gereffi, Gary (1994) “The organization of buyer-driven global commodity chains: How U.S. retailers shape overseas production networks.” Pp. 95-122 in Gary Gereffi and Miguel Korzeniewicz (eds.), *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.

Gereffi, Gary (1995) “Global production systems and third world development.” Pp. 100-42 in Barbara Stallings (ed.), *Global Change, Regional Response: the new international context of development*. New York: Cambridge University Press.

Gereffi, Gary (1996) "Global Commodity Chains: New Forms of Coordination and Control Among Nations and Firms in International Industries." *Competition and Change* 1: 427-439.

Gereffi, Gary (1997) “Global Shifts, Regional Responses: Can North America Meet the Full-Package Challenge?” *Bobbin* (November).

Gereffi, Gary (1999) “International trade and industrial upgrading in the apparel commodity chain,” *Journal of International Economics* 48 (1): 37-70.

Gereffi, Gary (2001) “Shifting Governance Structures in Global Commodity Chains, With Special Reference to the Internet.” *American Behavioral Scientist* 44 (10): 1617-1637.

Gereffi, Gary (2001b) “Beyond the Producer-driven/Buyer-driven Dichotomy: The Evolution of Global Value Chains in the Internet Era.” *IDS Bulletin* 32, 3: 30-40.

Gereffi, Gary (2004) “The Global Economy: Organization, Governance and Development.” *Handbook of Economic Sociology*, 2nd edition. New York: Russel Sage Foundation, 2004 forthcoming.

Gereffi, Gary and Jennifer Bair (1998) “U.S. companies eye NAFTA’s prize.” *Bobbin* 39 (7): 26-35.

Gereffi, Gary, Ronnie Garcia-Johnson, and Erica Sasser (2001) “The NGO-Industrial Complex.” Foreign Policy 125:56-65.

Gereffi, Gary, John Humphrey, Raphael Kaplinsky and Timothy Sturgeon (2001) “Introduction: Globalisation, Value Chains, and Development.” *IDS Bulletin* 32, 3: 1-8.

Gereffi, Gary, John Humphrey, and Timothy Sturgeon (2004) “The Governance of Global Value Chains.” *Review of International Political Economy*, forthcoming.

Gereffi, Gary and Miguel Korzeniewicz (eds.) (1994) *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.

Gereffi, Gary, Miguel Korzeniewicz and Roberto Korzeniewicz (1994) “Introduction.” *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.

Gereffi, Gary, David Spener, and Jennifer Bair (eds.) (2002) *Free Trade and Uneven Development: The North American Apparel Industry after NAFTA*. Philadelphia, PA: Temple University Press.

Gereffi, Gary and Donald Wyman (eds.) (1990) *Manufacturing Miracles: Paths of Industrialization in Latin America and East Asia*. Princeton, NJ: Princeton University Press.

Gibbon, Peter (2001) “Upgrading Primary Production: a global commodity chain approach.” *World Development* 29, 2: 345-363.

Hardt, Michael and Antonio Negri (2000) *Empire*. Cambridge, MA: Harvard University Press.

Harvey, David (1982) *The Limits to Capital*. London: Blackwell.

Harvey, David (1989) *The Condition of Postmodernity*. Cambridge: Blackwell.

Henderson, Jeffrey (1996) "Globalisation and Forms of Capitalism: Conceptualisations and the Search for Synergies." *Competition and Change* 4: 403-410.

Henderson, Jeffrey, Peter Dicken, Martin Hess, Neil Coe, and Henry Wai-Chung Yeung (2003) “Global Production Networks and the Analysis of Economic Development.” *Review of International Political Economy* 9, 3: 436-464.

Hopkins, Terence and Immanuel Wallerstein (1986) “Commodity chains in the world economy prior to 1800, *Review* X (1):157-170.

Humphrey, John and Hubert Schmitz (2001) “Governance in Global Value Chains.” *IDS Bulletin* 32, 2: 19-29.

Kaplinsky, Raphael (2000) Spreading the Gains from Globalization: What can be learned from global value chain analysis?” IDS Working Paper 110 (May).

Manzo, Kate (1991) "Modernist Discourse and the Crisis of Development Theory." *Studies in Comparative International Development* 26 (2): 3-36.

McMichael, Philip (1995) Review of *Commodity Chains and Global Capitalism*. *Contemporary Sociology* 24, 3: 348-349.

McMichael, Philip (1996) *Development and Social Change: A Global Perspective*. Thousand Oaks, CA: Pine Forge.

Milberg, William (2003) "The Changing Structure of Trade Linked to Global Production Systems: What are the Policy Implications?" Paper prepared for the World Commission on the Social Dimensions of Globalization, International Labor Organization, April.

Phyne, John and Jorge Mansilla (2003) "Forging Linkages in the Commodity Chain: The Case of the Chilean Salmon Farming Industry." *Sociologia Ruralis* 43, 2: 108-127.

Plankey Videla, Nancy (2003) "From Sub-contractor to Flexible Producer and Back Again." Paper prepared for the 2003 Annual Meeting of the American Sociological Association, Atlanta, Georgia, August 15-19.

Ponte, Stefano (2002) "The 'Latte Revolution?' Regulation, Markets and Consumption in the Global Coffee Chain." *World Development* 30, 7: 1099-1122.

Portes, Alejandro (1997) "Neoliberalism and the Sociology of Development: Emerging Trends and Unanticipated Facts." *Population and Development Review* 23 (2): 229-259.

Rabach, E. And Eun Mee Kim (1994) "Where is the chain in commodity chains?: The service sector nexus." Pp. 123-141 in Gary Gereffi and Manuel Korzeniewicz (eds.), *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.

Raikes, Philip, Michael Friis Jensen, and Stefano Ponte (2000) "Global commodity chain analysis and the French filière approach: comparison and critique." *Economy and Society* 29 (3): 390-417.

Robinson, William (2002) "Remapping development in light of *globalisation*: from a territorial to a social cartography." *Third World Quarterly* 23, 6: 1047-1072.

Rodrik, Dani (2002) "Feasible Globalizations." Unpublished paper, May.

Rosen, Ellen Israel (2002) *Making Sweatshops: The Globalization of the U.S. Apparel Industry*. Berkeley, CA: University of California Press.

Sadler, David and Adam Swain (1994) "State and market in eastern Europe: regional development and workplace implications of foreign direct investment in the automobile industry in Hungary." *Transactions of the Institute of British Geographers*. 19, 4: 387-403.

Schmitz, Hubert and Peter Knorringa (1999) "Learning from Global Buyers." IDS Working Paper 100 (November).

Schrank, Andrew (2002) "Downgrading by Diffusion: technology transfer, learning-by-watching and the export-led trap in the Americas." Paper prepared for the 2002 Annual Meeting of the American Sociological Association, Chicago, Illinois, August 16-19.

Schumpeter, Joseph A. (1976) [1942] *Capitalism, Socialism, Democracy*. London: George Allen and Unwin.

Smith, Adrian, Al Rainnie, Mick Dunford, Jane Hardy, Ray Hudson, and David Sadler (2002) “Neworks of value, commodities and regions: reworking divisions of labour in macro-regional economies.” *Progress in Human Geography*. 26, 1: 41-63.

Stark, David (1992) “Path dependence and privatization strategies in East-Central Europe.” *East European Politics and Society*. 6, 1: 17-51.

Stevens, Chris (2001) “Value Chains and Trade Policy: The Case of Agriculture.” *IDS Bulletin* 32, 3: 46-59.

.

Sturgeon, Timothy J. (2001) “How Do We Define Value Chains and Production Networks?” *IDS Bulletin* 32, 3: 9-18.

Talbot, John (1997) “The Struggle for Control of a Commodity Chain: Instant Coffee from Latin America.” *Latin American Research Review* 32, 2: 117-135.

Vernon, Raymond (1966) “International Investment and International Trade in the Product Cycle.” *Quarterly Journal of Economics*. 80, 2: 190-207.

Wade, Robert (1996) “Japan, the World Bank and the art of paradigm maintenance: The East Asian Miracle in Political Perspective. *New Left Review* 217 (May-June) 3-36.

Wallerstein, Immanuel (1983) *Historical Capitalism*. New York: Verso.

Wallerstein, Immanuel (1974) "The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis." *Comparative Studies in Society and History* 16 (4): 387-415.

Wallerstein, Immanuel (1994) "Development: Lodestar or Illusion?" Pp. 3-20 in Leslie Sklair (ed.), *Capitalism and Development*. London: Routledge.

Wallerstein, Immanuel (2000) “Introduction to Special Issue on Commodity Chains in the World Economy, 1590 to 1790.” *Review* 23, 1:1-13.

Whitley, Richard (1996) “Business Systems and Global Commodity Chains: competing or complementary forms of economic organisation?” *Competition and Change*1: 411-425.

Wood, Adrian (2001) “Value Chains: An Economist’s Perspective.” *IDS Bulletin* 32, 2: 41-45.

World Bank (1993) *The East Asian Miracle*. Washington, D.C.: World Bank.