

**Economic Governance in a Networked World Economy:  
Global Production Networks, Territoriality and Political  
Authority**

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## ABSTRACT

The combination of a volatile and uncertain environment, technological complexity and the digital revolution has led to the disintegration of vertically integrated firms and the emergence of global production networks comprised of interdependent, non-spatially proximate specialized operations or “tasks.” This paper is concerned with the political-economic implications of GPNs which represent a transition to a networked mode of organization of international production. The structural properties of a network and the multiscale nature of the individual operations of a GPN raise questions about the political-economic meaning of place, the state as bounded, the geographic congruence between polity, economy and society and the link between geographic location and embeddedness. As a result, governance based on the principle of mutually exclusive territoriality may become problematic. As GPNs become more prevalent, effective economic governance will require congruity with an emerging post-Westphalian or transnational world order characterized by the diminishing importance of borders and territoriality and the rise of multiple actors with political authority. This paper argues that while some form of self-governance is likely to emerge as a result of social relations within the network, effective governance will require public participation in the form of hybrid public-private partnerships.

I sympathize with those who would minimize, rather than with those who would maximize economic entanglement among nations. Ideas, knowledge, science, hospitality, travel – these are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible, and above all, let finance be primarily national. (Keynes, 1933:755)

In the depths of the Great Depression John Maynard Keynes argued against economic interdependence urging increased reliance on “homespun” goods produced nationally. Domestic manufacture in the narrow sense of goods “spun at home” was made obsolete by specialization and the rise of the factory system from the end of the eighteenth century. In the seventy-five years since Keynes pleaded for minimizing international economic entanglements, reliance on homespun goods in his broader use of the term may have been rendered problematic by dramatic changes in the structure of international production: the disaggregation of the value chain and the rise of spatially dispersed global production networks.

The combination of a volatile and uncertain environment, increased technological complexity and the digital revolution has led to the disintegration of vertically integrated “Fordist” firms into production networks comprised of interdependent, non-spatially proximate, specialized units, tasks or “slivers of activity” (Buckley & Ghauri, 2004, Grossman & Rossi-Hansberg, 2006). These production networks may be global in scope if the interconnections among nodes extend spatially across national borders (Coe, Dicken, & Hess, 2008). However, as Levy (2008) so well notes, global production networks are more than chains of value added activities: they are complex political-economic systems which construct markets and actively shape their socio-political context.

Susan Strange (1996:13, 14) famously argued that there has been a shift in power from states to markets, that “the authority of the governments of all states, large and

small, has been weakened as a result of technological and financial change and of the accelerated integration of national economies into one single global market economy.” In this paper I suggest that the shift in power from states to markets is manifest in the disaggregation of production, in the replacement of vertically integrated territorially embedded firms by spatially dispersed networks comprised of elements which are geographically multiscalar.

Strange observed a vacuum at the heart of the international political-economy: “a yawning hole of non-authority” or “ungovernance.” While I would not go that far – the extent and impact of GPNs are all controversial and “much clearer in the analytical literature than in practice” (Herrigel & Zeitlin, Forthcoming 2009:1090) – I will argue that the restructuring of international production in terms of spatially dispersed, mutually dependent production networks has serious implications for economic governance at both the level of the individual state and of the international society of states as a whole.

There are two disjunctions between global production networks (GPNs) and a system of governance that assumes economic space is constructed in terms of territorially defined national markets. The first, which is not specific to GPNs, is the geographic asymmetry between a global world economy and law, regulation and society which remain primarily national. The second is a structural or organizational asymmetry between the territorial international states system and relational networks: between a “space of spaces” and a “space of flows” (Castells, 1996) .

The emergence of global production networks, which represent a change in the underlying mode of organization of international production from markets (trade) and hierarchy (multinational firms) to networks, may render governance based upon the

Westphalian principle of mutually exclusive territoriality problematic. First, in a network the political-economic significance of “place,” the physical location of an element of a GPN within a given state’s territorial borders, becomes questionable. Second, the geographic multiscalarity of the elements of a GPN may well compromise the fundamental Westphalian idea of the state as a bounded society (Giddens, 1990) and the core systemic construct of mutually exclusive territoriality. Last, the assumption of a geographic congruence among polity, economy and society -- and more generally the link between geographic location and embeddedness (in Polanyi’s sense) -- can no longer be taken for granted.

I will argue that as GPNs become more prevalent in the international economy, effective economic governance will require congruence with an emerging post-Westphalian or transnational political order characterized by the diminishing importance of borders and territoriality and the rise of multiple actors with power in the system. That is likely to require some degree of network self-governance: of hybrid public-private mechanisms that emerge, at least in part, from relations among elements of the network.

This paper should be taken as a speculative inquiry into the possible impact of GPNs on the international political-economy. It asks what effects the emergence of networks would have on political structure: the meaning of place, the embedding of the market in society and the ability to govern. It is speculative both conceptually and phenomenologically: evidence about the importance of GPNs and their ability to withstand shocks such as an economic crisis or rising energy costs is still mixed. Furthermore, as Sassen (2008) reminds us, the emergence of a new order relies on

previously established capabilities: the ascendance of the new does not mean the immediate disappearance of the old.

## THE DISAGGREGATION OF THE VALUE CHAIN

The industrial revolution of the 18<sup>th</sup> and 19<sup>th</sup> centuries involved the spatial and temporal “bundling” of tasks: the shift from value creation through direct human labor and dispersed craft production to large scale manufacturing utilizing the tangible assets of plant and equipment (Mudambi, 2008). Taking full advantage of specialization required the coordination of a large number of workers or tasks necessitating spatial proximity and geographic concentration.

In contrast, Baldwin (2006) describes 20<sup>th</sup> century globalization as a process of two “great unbundlings” facilitated by dramatic improvements in transport and communications. The first was the spatial separation of manufacturing from consumption: the internationalization of production. The second, which is relatively recent, involves unpacking the production of goods and services into “increasingly specialized slivers of activity” which can be separated in space and time (Buckley & Ghauri, 2004): the emergence of “trade in tasks” as opposed to trade in goods (Grossman & Rossi-Hansberg, 2006).

The disintegration of production, the “detailed disaggregation of stages of production and consumption across national boundaries” structured organizationally as dense networks (Gereffi, Korzeniewicz, & Korzeniewicz, 1994:1) is a function of a number of factors. First, technological developments in transport and communications -- particularly the digital revolution -- allow for the coordination of complex processes

across space and time reducing the need for geographic and temporal proximity of interdependent components of the value chain.

Second, disaggregation is a response to changed environmental conditions. Increasing environmental volatility and uncertainty reward the flexibility and the “open-ended” nature of networks. Third, disaggregation can increase the capacity for innovation by “utilizing and enhancing intangible assets such as tacit knowledge” (Powell, 1990, 322) and from the emergence of production units which specialize in specific technologies or facets of development and manufacture (Herrigel & Zeitlin, Forthcoming 2009).

Last, and perhaps most important here, is the combination of the dramatic increase in the complexity of technology with the geographic dispersion of capabilities observed over the last two decades. Although Keynes (1933) argued that it is ideas, knowledge and science that should “of their nature” be international while goods should be “homespun,” at this point it is difficult to separate knowledge and science from goods, or research and development from production.

The motivation for international production has evolved from exploiting a firm’s ownership specific advantages to strategic asset seeking geared to “protecting, or augmenting, that advantage by the acquisition of new assets, or by a partnering arrangement with a foreign firm” (Dunning, 2009:9). While these assets certainly include productive and efficient labor, it is knowledge -- of technology, design, production processes or marketing -- that is likely to be the more important motivation for extending the firm’s operations abroad.

Firms access strategic knowledge-based assets located in diverse geographic locations by disaggregating the value chain into “tasks,” and then locating each “task” -- whether it is product development or a stage in production-- where it can be performed most efficiently. Put differently, geographically specific clusters of capabilities are integrated into global networks where the individual tasks (or components or designs) achieve coherency and value.

Furthermore, as a result of the increased complexity of technology in some industries the range of knowledge necessary for successful product development may extend beyond the capacity of any single firm. “The response has been collaborative innovation across organizational boundaries with, for example, upstream and downstream participants in the supply chain specializing in particular technologies and the ultimate product resulting from cooperation among different organizations” (Gilson, Sabel, & Scott, 2009: 448).

Fortunately, the need for collaborative innovation comes at a time when scientific knowledge and development capabilities increasingly are dispersed geographically. (An example here is the increase in MNCs’ research and development centers located in India from three in 1987 to two hundred in 2007 (Leahy, 2010)). The upgrading of skills and facilities in developing and emerging economies has increased the benefits of disaggregation and dispersion by allowing – at least in theory – each element of the value chain to be located where it can be “produced” most efficiently (Dunning, 2009, Herrigel & Zeitlin, Forthcoming 2009). By disaggregating and dispersing the value chain, firms can take full advantage of differences in capabilities across locations; they can – again in

theory – find the optimal location for “each sliver of activity” (Buckley & Ghauri, 2004, Gereffi, 2005, Mudambi, 2008).

### Global Production Networks

The value chain has been defined as the "full range of activities which are required to bring a product or service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use" (Kaplinsky, 2000:121). Global value chains have become important vehicles for understanding changes in the nature of international production, the organization of multinational firms and the strategic interaction between firms and countries in the global economy (Kogut, 1985).

The more recent development of the concept of global commodity chains (GCC) is associated with Gary Gereffi and his collaborators who defined a GCC as “...sets of interorganizational networks clustered around one commodity or product, linking households, enterprises and states to one another within the world-economy. These networks are situationally specific, socially constructed, and locally integrated, underscoring the social embeddedness of economic organization” (Gereffi, Korzeniewicz, & Korzeniewicz, 1994: 2). Commodity chains may remain inside the firm governed by the corporate hierarchy, they may be comprised of independent firms or they may entail some combination of the two.

Global commodity chains are linear or vertical; they represent the sequence of events from research and development of a good or service through its final delivery to the consumer (Dicken, 2007, Henderson, Dicken, Hess, Coe, & Wai-Chung Yeung, 2002,

Sturgeon, 2001). As Dicken (2007:14) notes, however, economic processes tend to be non-linear, and while the difference may be semantic, it is more useful in the present context to think in terms of global production networks of intra and inter-firm linkages and relationships. A global production network is then “one whose interconnected nodes and links extend spatially across national borders, and in so doing, integrates parts of disparate national and subnational territories” (Coe, Dicken, & Hess, 2008: 274).

### GPNS as Networks

It is important to note that the term *network* in global production networks (GPNs) is used specifically in the sense of a distinct mode of economic organization as opposed to market or hierarchy (Kahler, 2009). “By sticking to the twin pillars of markets and hierarchies, our attention is deflected from a diversity of organizational designs that are neither fish nor fowl, nor some mongrel hybrid, but a distinctly different form” (Powell, 1990: 299).

A number of characteristics of GPNs as networks are important. First, they are structural: it is the pattern of relationships or associations among the nodes rather than the attributes of the nodes themselves that is the critical determinant of outcomes (Dicken, Kelly, Olds, & Yeung, 2001, Hafner-Burton, Kahler, & Montgomery, 2009). In a network, power depends on “structural position in a field of connections to other agents” as well as actor attributes (Kahler, 2009: 3).

Second, networks are relational, “...constituted by the interactions of variously powerful social actors” (Dicken, Kelly, Olds, & Yeung, 2001:94). These relationships can give rise to norms, conventions and values, they can “define, enable or restrict the behavior of nodes” (Hafner-Burton, Kahler, & Montgomery, 2009:562, Smith-Doerr &

Powell, 2005). Third, networks as entities can be seen as actors, “forms of coordinated or collective action aimed at changing international outcomes and national policies” (Kahler, 2009: 5).

Fourth, the meaning of space and distance change within a network from absolute geographic or Euclidian constructs to “relational scopes of influence, power and connectivity” (Henderson, Dicken, Hess, Coe, & Wai-Chung Yeung, 2002: 442).

Castells (1996:412) argues that with the emergence of networks, the basic organizational form of the global economy itself has been transformed: the space of spaces has been replaced by a space of flows. (I will return to this concept shortly.) Thus, in a GPN the concept of “location” is ambiguous referring both to the physical location of the nodes and their structural position within the network.

#### Relational Dependence

Last, and most important here, GPNs as networks are characterized by mutual or relational dependence: the individual units do not exist autonomously, but only in relation to other units (Hafner-Burton, Kahler, & Montgomery, 2009, Powell, 1990). Even in the more traditional global supply chains power relations are “far from asymmetrical ... involving complex and subtle power relations” among the elements of the network (Locke, Amengual, & Mangala, 2009: 325). In networks involving more complex technology, “mutual dependence” is created by both the co-design of products and the need to aggregate competencies (Herrigel & Zeitlin, Forthcoming 2009). In a GPN, value creation flows from systemic rather than point efficiency as each of the elements of the network is dependent on the system as a whole to extract value from its operations: all of the elements of the network are dependent, to varying degree, on one another.

The idea of relational dependence within a network differs from notions of dependence or interdependence in a hierarchical world economy. While all limit autonomy, they do so in different ways. Cohen (1973: 8-9) defined dependence in terms of the implicit veto power of foreigners over the capability of local decision-makers to direct development: it implies a subservient relationship between periphery and center. Complex interdependence (Keohane & Nye, 1977), on the other hand, implies “mutual dependence” arising from the integration of the world economy: the reciprocal (but not necessarily symmetrical) costly effects of transactions.

Both dependence and interdependence are geographically rooted phenomena. Both assume that the autonomy of a government within its borders is constrained by events or decisions taking place in other territorial jurisdictions. Both assume that decision making in one “space” is limited by events in another. Both are concerned with the ability of a territorial government to exert control over its economy and economic actors.

The relational dependence characteristic of GPNs differs from dependence or interdependence in a number of ways. First, it is a function of network structure rather than events or decisions within one territory (economy) resulting in costly effects within another. As will be discussed below, it represents a loss of autonomy of all states (in varying degrees) rather than a shift in power among states: it is a function of flows rather than spaces.

Second, the finer grained disaggregation of the value chain associated with GPNs -- the narrower “slivers of activity” or tasks -- markedly increases the dependence of each individual operation on the network. The narrower the individual operation or task, the

less likely that it will have significant intrinsic value in itself and, correspondingly, the more likely that its value will depend on its integration into a global production network. As value chains (or GPNs) become increasingly disaggregated, the returns from improving the efficiency of individual “links in the chain” become increasingly limited (Kaplinsky, 2000: 126).

The electronics industry provides a tangible example of relational dependence in global production networks. Vertically integrated firms have outsourced production and design to global networks comprised of contract manufacturers (CMs), original design manufacturers (ODMs), and components suppliers (Linden, Kraemer, & Dedrick, 2007). The PC industry has been described as “horizontally specialized” with the “branded firms” serving as systems integrators who do product design and then outsource development and manufacturing to the CMs and ODMs. The CMs and ODMs, in turn, rely on suppliers of key components such as displays, disk drives, optical drives, memory, batteries and the like, some of whom are the integrators of their own multinational supply chains (Dedrick & Kraemer, 2008, Linden, Kraemer, & Dedrick, 2007).

What is important for my purposes here is the mutual dependence of suppliers and lead firms, the fact that efficiency is systemic rather than point specific. Suppliers are dependent on lead firms who often conceptualize the product, set strategy, sell it to the final consumer and serve as systems integrators. They have “buyer power,” the ability to choose suppliers. On the other hand, suppliers have their own sources of power flowing from technical competence and service capabilities (Sturgeon, 2007).

Most of the innovation in the PC industry occurs upstream, by firms like Intel and Microsoft who control key “platforms” and by component and subsystems suppliers: producers of disk drives, display devices, memory and the like (Dedrick, Kraemer, Linden, Brown, & Murtha, 2007). This is clearly reflected in R&D spending at various points in the network: in 2005, for example, the lead PC makers spent 1.4 percent of revenue on R&D; the ODMs and CMs 1.3 percent; and the upstream suppliers 11.8 percent (Dedrick & Kraemer, 2008:38).

GPNs in the electronics industry have become global knowledge networks characterized by both structural differentiation of the nodes and the need for intense coordination or relationships among them. As a result of differences in contexts, specialization, path dependence and scale economies, suppliers have developed capabilities that would be extremely difficult to replicate downstream.

Both value and knowledge are systemic: firms located at any point in the network are dependent on the network as a whole. “Going it alone is not an option in an industry marked by rapid technological change across all sectors, as firms simply cannot keep up in all or most of the relevant technologies. They need access to outside knowledge to compete” (Dedrick, Kraemer, Linden, Brown, & Murtha, 2007:27).

The intellectual heritage of global commodity chains flows, at least in part, from world systems theorists who were interested in GCCs as a mechanism for structuring a stratified and hierarchical world-system (Bair, 2005). That heritage is reflected in the concern in the literature over the developmental role of value chains; that is, can a country move “up the chain” to more technologically or capital intensive “tasks?” Bair (2005:171), for example, argues that commodity chain research should “expand the scope

of analysis to encompass the regulatory mechanisms, market institutions and structural properties of contemporary capitalism that affect the configuration and operation of these chains as well as the developmental outcomes associated with them.”

My concern here is somewhat the obverse: how do value chains or global production networks affect the “regulatory mechanisms, market institutions and structural properties of contemporary capitalism?” More specifically, do they compromise the territorial system of control and regulation of economies and economic activity associated with the Westphalian international system?

#### THE MEANING OF PLACE

The importance of Euclidian conceptions of place and space in international economics is reflected in the critical role geographic distance plays in the standard Gravity Model of international trade (Bergstrand, 1985). The international world economy is an aggregation of geographically bounded and territorially defined national markets where international transactions take the form of discrete cross-border flows: it is a “space of spaces.” The traditional multinational firm inhabits this world of spaces and places, of mutually exclusive territoriality and borders. It requires *access* to territory to function and most of the conflicts it has engendered have been conflicts of jurisdiction resulting from the ambiguity of territorial control (Kobrin, 2001).

The MNC integrates the activities of subsidiaries, which have limited autonomy, by internalizing transactions within its hierarchy. It is defined strategically by the tradeoff between fragmenting pressures to respond to differences in local environments – places – and the gains from integration across borders. It is concerned with the avoidance

of sub-optimization, of the centrifugal tendency to maximize point (local) rather than systemic (global) efficiency.

Hymer (1979) suggested a correspondence principle which imposes the hierarchical structure of the firm on the international economy as corporations create a world order in their own image. He envisioned a hierarchical division of labor between geographic regions corresponding to the vertical division of labor within the multinational firm: headquarters cities where wealth and resources are concentrated; regional “sub-capitals” where lower levels of management are located; and “branch plant” countries relegated to lower levels of activity and income.

Hymer’s correspondence principle serves as a useful, if metaphorical, link between the micro and macro levels of economic organization. His argument is consistent with the spatial construction of the modern international economy: local, national and global scales of production are geographically separate and distinct. Thus, cross-border linkages among subunits of the traditional multinational firm take place through the firm’s organizational structure. They are nested in the sense that transactions move from the local to the national to the global sphere through the mediation of hierarchy. MNCs mediate scalar geographies, and in doing so, may replicate their organizational structure in the broader economy.

It is of interest here that Hymer foresaw the possibility of the emergence of a relationally structured world economy made possible by developments in communications. “Communications linkages could be arranged in the form of a grid in which each point was directly connected to many other points, permitting lateral as well as vertical communication. This system would be polycentric since messages from one

point to another would go directly rather than through the center; each point would become a center on its own..." (Hymer, 1979: 395). In fact, as Hymer forecast, there has been a dispersal of authority within organizational structure of the MNC and the corresponding emergence of the networked view of the multinational firm (Goshal & Bartlett, 1990).

By providing simultaneity in time without regard for space, digital communications facilitate the construction of markets in terms of relational networks rather than a "string of places" (Amin, 2002), of flows rather than spaces. "(F)lows are not just one element of the social organization: they are the expression of processes *dominating* our economic, political and symbolic life" (Castells, 1996:412, emphasis original). When flows rather than spaces dominate, networks "become the foundational unit of analysis for our understanding of the global economy" (Dicken, Kelly, Olds, & Yeung, 2001: 91).

The intrusion of physical reality, however, requires that every node in a global production network has to be located two-dimensional geographic space." Each operation of a GPN is grounded materially in terms of fixed assets of production and less tangibly in terms of local social relationships and distinctive local institutions (Coe, Dicken, & Hess, 2008). The meaning of "place," however, is very different in a relational world of flows than in a geographic world of places. The difference reflects both the structural properties of networks and the multiscalarity of the individual nodes.

If the interactions within the network rather than the attributes of the individual nodes dominate, position becomes a function of the structure and properties of the network rather than geographic location and Euclidian distance. As Castells notes (1996:

412) “places do not disappear, but their logic and their meaning become absorbed in the network.”

Giddens (1990: 18,21) argument that modernity results in the separation of “place” (the physical or geographic setting of social activity) and “space” is consistent with a network view. Social systems are “disembedded” or “lifted out” of local contexts of interaction and restructured “across indefinite spans of time-space.” He argues that both local conditions and “distanciated relations” determine the nature of any given locale.

In an integrated relational network, the distinction between “local” and “global” as separate geographies or scalar fields becomes problematic (Amin, 2002). Thus, within a GPN place becomes multiscalar, each node existing simultaneously as local, national and global. Once it becomes difficult to make easy distinctions between local and global geographies, the idea of location as territory loses meaning: it becomes necessary to think of space in non-territorial or relational terms (Amin, 2002). “It becomes meaningless to talk of local versus global processes...instead, we should think in terms of networks of agents...acting across various distances and through various intermediaries” (Dicken, Kelly, Olds, & Yeung, 2001: 95). Processes and interactions are no longer confined to “moving through a set of nested scales from the local to the national to the international but can directly access other such local actors in the same country or across borders” (Sassen, 2008).

That said, new, emergent modes of organization do not immediately replace the existing order: the space of flows will exist alongside the space of spaces for some time to come (Ruggie, 1983, Sassen, 2008). The operations of a global production network

exist as both entities located in two-dimensional geographic space and as nodes in a relational network.

## THE EMBEDDEDNESS OF PRODUCTION

Every capitalist economy requires “serviceable” institutions such as the establishment of property rights (including intellectual property), contractual conditions, procedures for civil redress, and a supply of public goods to function. “Economic activities require the existence of rules and their enforcement as preconditions that the market cannot generate itself” (Scherer, Palazzo, & Baumann, 2006:505).

Polanyi (1977(1944):3) believed that “the idea of a self-adjusting market implied a stark utopia...[which] could not exist for any length of time without annihilating the human and natural substance of society.” He argued that there was “nothing natural about *laissez-faire*,” that “an economic order is merely a function of the social, in which it is contained” (71). His thesis that a market must be embedded in a social and political order to function is widely accepted.

Networks, and specifically GPNs, raise complex questions about the meaning of embeddedness. First, global production networks are “embedded” in both territory and networks, the former referring to the GPN’s elements grounded in specific places and the latter to the “network structure, the degree of connectivity within a GPN, the stability of its agents’ relationships and the importance of the network for the participants.” While the contexts within which the nodes are embedded are territorially specific, the networks themselves are not (Henderson, Dicken, Hess, Coe, & Wai-Chung Yeung, 2002: 446, 552).

Thus, the process is “mutually constitutive:” the elements of GPNs are embedded in specific territorial locations and national territories become embedded in GPNs (Coe, Dicken, & Hess, 2008). Henderson et al (2002:438,445) note that places and flows have a dialectical connection: at one and the same time places are being transformed by flows and flows by places, non-place specific processes penetrate and transform place specific processes and vice-versa.

The individual elements of a GPN may become “embedded” in specific places “in the sense that they absorb, and in some cases become constrained, by the economic activities and social dynamics that already exist in those places” (2002:446,452). Even “firms operating in highly internationalized sectors still tend to retain distinct organizational forms and practices that largely reflect the regulatory environment of their home country” (Dicken, Kelly, Olds, & Yeung, 2001:97). It is important to note that these “specific places” vary considerably in terms of how society is constituted, the institutional context and the relationship between the state and the economy (Hall & Soskice, 2001).

It is reasonable to argue that network structure alone is not the only determinant of a GPN, one also has to take the social, political and institutional contexts of the locations of the nodes into account: spaces certainly affect flows. That said, arguments that production networks are inherently geographic because of their differentiated spatial configurations and their territorial embeddedness in specific places (Dicken (2007: 29) may not use “embeddedness” in the same sense as Polanyi. It is the difference between located and embedded (in Polanyi’s sense) that is of concern here.

Polanyi argued that avoidance of the annihilation of the “human and natural substance of society” required containing the market within a society. Modern societies are “plainly *nation-states*” (Giddens, 1990: 13 emphasis original): they are “bounded...clearly delimited systems with their own inner logic.” Modern societies contain a “clustering of social institutions” surrounded by a clear and policed border (Urry, 2000:33).

The core Westphalian concept of mutually exclusive territoriality assumes that there is geographic *congruity* between politics, economics and social relations, that the sovereign state is a “container” (McGrew, 1997). That implies that the space encompassed by borders has meaning as a political-economic construct: that the economy, society and polity are all defined in terms of mutually exclusive jurisdiction. The market is embedded within a society because both (as well as the political order) are contained within the borders of a sovereign state that has the authority to provide public goods and regulate transactions.

Bull (1977: 13) defined international society in terms of common interests, rules and international institutions: states form a society “in the sense that they conceive of themselves to be bound by a common set of rules in their relations with one another, and share in the workings of common institutions.” The international economy, consisting of national markets and discrete cross-border transactions, is embedded in the Westphalian system both individually at the level of the sovereign state and collectively at the level of the international society of states.

A world economy organized in terms of flows or relational networks could render the critical assumption of congruity invalid. The concept of “position” of any given

operation in a GPN is ambiguous, a function of both its location in physical space and the pattern of relationships or structure of the network: each operation is located in both a space of spaces and a space of flows. Furthermore, GPNs are characterized by multiscalarity: the nodes in a GPN are simultaneously local or national and global. The result is a very imperfect congruence between any given element of a GPN and the society or polity where it is located: individual operations exist both in a specific geographic space and as part of a relational network where both efficiency and value added are systemic. The disembedding of a social system breaks the assumption of boundedness, of the state as container, which is essential in the Westphalian international system.

The argument that spaces affect flows focuses on the development of attributes of the nodes rather than the relations among them or the structure of the network as an entity. It is one thing to argue that the regulatory environment of different states is an “intensely formative influence on network development” (Dicken, Kelly, Olds, & Yeung, 2001:96) and another to suggest that a network is somehow embedded, as an entity, in the sum of the territories in which its elements or nodes are located. While each of the elements of a GPN is located within a specific jurisdiction and is regulated by a political structure whose basic unit is the nation state (Coe, Dicken, & Hess, 2008), a global production network as an entity cannot be seen as embedded in a society as that term is conceived in the Westphalian system.

In his definitional article, Hardin (1968) defined the commons spatially in terms of a pasture open to all subject to the authority of none. The idea of a global commons can be defined either in terms of spaces such as the oceans or Antarctica outside of the

territorial jurisdiction of any or all states or of jurisdictional gaps between states. The fact that part of the world economy is organized in terms of relational networks, suggests the possibility of a global commons that is non-territorial, that exists along side but apart from the world of spaces. It is an area where territorial jurisdiction may be irrelevant rather than unclaimed.

This non-territorial region in the world economy is “a decentered yet integrated space-of-flows, operating in real time, which exists alongside the space-of-places we call national economies” (Ruggie, 1993: 172). Ruggie goes on to note that while the conventional space-of-spaces continue to engage in external economic relations mediated by the state, in the non-territorial global economic region distinctions between internal and external become problematic and any given state is but one constraint among others.

This difference in structure between spatial or geographic and relational forms of organization becomes as, if not more, important than the lack of coherence between a global economy and national law and regulation. There is a substantive difference in mode of organization between societies (and polities), which are organized in terms of spaces and networks, which are organized in terms of relational flows. It is difficult, if not impossible, to impose one upon the other, a world of flows cannot be “enclosed” geographically. It is not possible to delimit a diffuse network spatially

One can think of networks in terms of the nodes, the relations among them and the network structure itself. Only the first has tangible, physical or spatial properties. Both the relations among the nodes and the network as an entity exist outside of geographic space. That places limits on the effectiveness of any given state’s authority

vis-à-vis any specific node and of all states – as territorial jurisdictions—over the network as a whole. It is to the problem of governance that I now turn.

## GOVERNANCE

Westphalian economic governance is based upon territorial jurisdiction in a state-centric system. It assumes national markets as the constituent unit of the world economy and a geographic congruity between economics, politics and social relations: that the space encompassed by borders has meaning political-economic. International economic governance is thus synonymous with government in terms of states acting either individually or collectively.

An international economy is perfectly consistent with the structural characteristics of the Westphalian system, as the public domain, interstate sphere and “realm of governance” are largely coterminous (Ruggie, 2004). Control over both economic actors, and the economy at large, is based upon control over geography, over the space of spaces.

Governance rooted in mutually exclusive territoriality and discrete national markets becomes problematic as GPNs and networked forms of economic integration increase in importance. While both local law and regulation and the local socio-institutional environment – the nature of place – can affect the characteristics of local operations or nodes, their value remains dependent on relationships within the network. If the value of a operation is a function of its role in the network, then any attempt at local control which negatively affects that role may be value destroying. That directly affects the meaning of “place” as a basis for economic governance. The freedom of action of

any territorially defined authority is thus limited by the relational dependence of local operations on the network as an entity. While the state may have some degree of influence over a given node, that influence fades rapidly when one considers the network in terms of relations among nodes or the network as an entity.

The point was made well in the context of a possible boycott of Israeli products. An official of that country's Manufacturers' Association noted that Israel's strength was in providing inputs into products in effect, serving as nodes in a larger production network. He went on to say "that means if you want to boycott Israeli goods, you have to boycott computers and cell phones altogether" (Buck, 2009). The ability of any given state, and perhaps all states, to exert territorially based control over the network is limited by relational dependence.

Furthermore, while the GPN perspective certainly "accords a degree of relative autonomy to domestic firms, governments and other economic actors" (Henderson, Dicken, Hess, Coe, & Wai-Chung Yeung, 2002:446), it is unreasonable to assume that the network as a whole is somehow subject to the law and regulation of those territories, either individually or collectively. As noted above, a network is comprised of nodes, relations among them and the network as an entity. Only the first -- the nodes -- are physical entities located in geographic space subject to territorial control. There is a significant structural disconnect between governance constructed in terms of mutually exclusive territoriality and networks which are organized relationally.

Urry's (2000: 189) distinction between the "gardener state" and the "gamekeeper state" is relevant here. The former presumes concern with "pattern, regularity and

ordering, with what is growing and what should be weeded out.” Legislators, and legislation are central to the gardening state. Gamekeepers, on the other hand, face a world of mobility, where animals roam “around and beyond the estate.” The gamekeeper is concerned with regulating this mobility, with making sure that there is sufficient stock for hunting rather than the cultivation of each animal. Urry argues that the new global order involves a return to the gamekeeper state where states are “increasingly unable or unwilling to garden their society, only to regulate the conditions of their stock...”

The idea of the state as a gamekeeper as a metaphor for a world of flows is reflected in the literature about states’ ability to “move up the value chain” to more technologically or capital intensive operations (Bair, 2005). While stretching metaphors always raises the danger of beating a dead horse, the gamekeeper’s task is attracting higher value animals rather than cultivating them locally. In a networked world economy, the state will focus on incentives and regulation of flows rather than exerting a high level of control over operations on the ground: gardening will be replaced by game keeping.

In that regard, the physical location of a node retains importance and the idea of “embedding” as used in the GPN literature retains meaning. In this more limited sense the state can still garden: it can prepare the ground for a higher value crop. The ability of operations in any given locale to “move up the value chain” to more capital or technologically intensive activities can be directly influenced by host government policies. Gamekeeping, however, does not imply governance. To the extent that networks in general, and GPNs more specifically, increase in importance in the world

economy, a system of economic governance relying on state sovereignty and territoriality, individually or collectively, will lose efficacy.

### A Transnational World Order

Arguments about governance of GPNs are further complicated by the systemic transition underway in the international political-economy to a post-Westphalian or transnational world order. Three aspects of that transition are immediately relevant: changes in the political-economic meaning of space, borders and territoriality; the fragmentation of political authority and the rise of a multiple actors with political authority; and the blurring of the once clear distinction between the private and the public spheres.

The first, the loss of meaning of borders and territoriality, is a theme that has run through this paper to this point, particularly in the context of the digital revolution. The second and third require further discussion. Political authority is fragmenting in the sense that governance is no longer the sole province of states exercising sovereignty through territorially based authority. As Rosenau (1992:3) notes “to presume the presence of governance without governments is to conceive of functions that have to be performed in an viable human system irrespective of whether the system has evolved organizations and institutions explicitly charged with performing them.”

In a transnational order, governance involves multiple actors: private authorities including business firms and civil society organizations assume roles traditionally associated with government (Ruggie, 2004). While states may still occupy the “seat at the head of the table,” MNCs, NGOs international organizations and regional authorities

are all part of the process. Private political authority is no longer an oxymoron: private actors have gained power perceived as legitimate in the international system (Cutler, 1999, Hall & Biersteker, 2002).

The breakdown of the once clear distinction between the public and private spheres, between government and the market, follows. States have become, at least to some extent, market actors through state owned enterprises and sovereign wealth funds. Multinational firms have taken on roles that were previously considered “public” in areas such as health care and human rights (Scherer & Plazzo, 2009).

I now turn to possible modes of governance for global production networks. The one clear caveat is that any viable mode of governance will have to be consistent with the structure of the evolving transnational or post-Westphalian world order.

#### HYBRID GOVERNANCE OF PRODUCTION NETWORKS

Networks are relational as well as structural: they are “structural, in that the composition and inter-relation of various networks constitute structural power relations, and they are relational because they are constituted by the interactions of variously powerful social actors” (Dicken, Kelly, Olds, & Yeung, 2001:94). As the ties between nodes can be both material and non-material, the social relations within the network can result in the development of beliefs, norms, rules and conventions (Dicken, Kelly, Olds, & Yeung, 2001, Hafner-Burton, Kahler, & Montgomery, 2009). Thus, it is possible to imagine governance mechanisms emerging from the relationships or interactions among social actors within a network. If networks are seen in terms of actors rather than

structure, “agent characteristics” may transform their aims and effectiveness (Kahler, 2009: 6).

Assuming both a logic of appropriateness as a basis for action and inefficient historical processes, March and Olsen (1998: 959) argue that the “emergence, development, and spread of identities, interests, and institutions are shaped by interaction and involvement in political activities.” Political relationships may result in the development of identities and rules, “political actors acting in accordance with rules and practices that are socially constructed, publically known, anticipated and accepted” (951). They go on to note that concepts and codes of appropriate behavior “become a product of international contact, institutions, allegiances and organizations” (963).

While the context for March and Olsen’s argument is international relations, there is no reason that it cannot be applied to the social actors comprising a global production network. Thus, norms or codes of appropriate behavior could arise from the social relationships among nodes in the network as a result of their “interaction and involvement in political activities:” both human/worker rights and environmental concerns come to mind here. In the present context this could take the form of codes of conduct such as The Electronic Industry Code of Conduct (Electronic Industry Citizenship Coalition, 2009) or the Forest Stewardship Council’s Forest Management Standard (Forest Stewardship Council, 2009).

While network interaction may result in norms or standards, codes alone cannot provide for monitoring and enforcement. As I have noted elsewhere, the voluntary and non-binding nature of codes makes systematic and rigorous monitoring difficult and

enforcement problematic (Kobrin, 2009). On the other hand, as Scherer and Palazzo (2009) note, given the post-Westphalian transition, nation states and international organizations are no longer able to regulate the global economy effectively or provide for public goods. They suggest that a “polycentric” or multilateral process is now necessary involving multiple actors: governments; international organizations; civil society groups; and business firms.

While regime theory was developed originally to explain the persistence of informal arrangements in international politics (Krasner, 1982), the concept has been extended to include “an integrated complex of formal and informal institutions that is a source of governance for an economic area as a whole” (Cutler, 1999:13). International regimes could take the form of hybrid public-private governance mechanisms involving firms, NGOs, states and perhaps, international organizations. These public-private partnerships constitute “a hybrid type of governance, in which nonstate actors co-govern along with state actors for the provision of collective goods and adopt governance functions that have formerly been the sole authority of sovereign nation-states” (Schaferhoff & Kaan, 2009:451).

Hybrid regimes, or public-private partnerships can establish norms, rules and decision-making procedures and may be more effective than strictly private or strictly public in providing for monitoring and enforcement. While they cannot legislate, they can “develop standards and norms, provide global public goods and implement international agreements” (Benner, Reinicke, & Witte, 2004: 196).

CONCLUSION

As I have noted elsewhere, we are in the midst of a post-Westphalian transition and can only dimly perceive the emerging outlines of a transnational world order: the emergence of effective global economic governance will be a difficult and drawn-out process (Kobrin, 2008). The reorganization of international production in terms of networks is both a result and a cause of the transnational transition: the diminished efficacy of borders, the rise of multiple authoritative actors in international politics and the blurring of the line between the public and private spheres.

In a post-Westphalian world order, a space filled with overlapping global production networks, traditional multinational firms, civil society organizations, and international organizations, governance will be complex and multidimensional. In some respects, polity and society will be continued to be defined in terms of mutually exclusive territoriality: borders and the idea of the state as a container will retain meaning. Increasingly, however, both society and polity may have to be redefined in terms of relational rather than geographic constructs, in terms of flows rather than spaces. Under those circumstances, neither entirely public nor entirely private governance mechanisms will be effective. During the extended period of the transnational transition, economic governance may require hybrid mechanisms that involve firms, civil society organizations, states and perhaps international organizations, what Rosenau (1997) characterized as “governance without government.”

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