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GLOBALISATION ON THE GROUND: GLOBAL PRODUCTION NETWORKS, COMPETITION, REGULATION AND ECONOMIC DEVELOPMENT

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Abstract

This paper outlines a framework for the analysis of economic integration and its relation to the asymmetries of economic and social development. Breaking with state-centric forms of social science, it argues for a research agenda that is more adequate to the exigencies and consequences of globalisation than has traditionally been the case in 'development studies'. Reviewing earlier attempts to analyse the cross-border activities of firms, their spatial configurations and developmental consequences, the paper moves beyond these by proposing the framework of the 'global production network' (GPN). It explores the conceptual elements involved in this framework in some detail and then turns to an assessment of issues of competition and regulation for firms absorbed into GPNs and the economies influenced by them. Appreciating the limited attention paid to regulation and competition (particularly the latter) in research guided by the antecedents of GPN analysis, the paper argues that once these issues are factored into the framework, then we have in prospect the possibility of analyses of 'globalisation on the ground' that can take us closer to formulating policies adequate to the task of economic development in a global epoch.

GLOBALISATION ON THE GROUND [1]

The analysis of economic development has been bedevilled by a series of analytic disjunctions that have resulted in work either at macro or meso levels of abstraction or, where empirical investigations have probed micro level processes, the larger analytic picture has often been absent, merely implicit, or at best weakly developed. While there are notable exceptions to this general rule (for instance, Armstrong and McGee's work on urbanisation: Armstrong and McGee 1985) behind it lies half a century and more of scholarship in development economics (irrespective of its paradigmatic stripe) and in the political economy and sociology of development. What is more, from the beginnings of ‘dependency’ approaches to development in the 1940s through to debates over the respective roles of states and markets in the East Asian ‘miracle’ and its recent demise, the central agent in development has often been perceived as the state, whether the assessment of its role has been positive or negative[2]. Although the developmental significance of labour, gender and other social movements as well as international agencies such as the IMF and World Bank, have figured in some analyses, the analytic space given to development actors other than these, has been limited.

The relative absence of the firm as a development actor seems to have been a case in point. There is, of course, a long history of work on foreign direct investment and development (summarised, for instance, in Jenkins 1987, Dunning 1993 and Dicken 1998), but this has tended to deal largely with the role of transnational corporations (TNCs) and has relied primarily on secondary data for its empirical bases. The firm has in many cases been treated as if it were a 'black box', devoid of contextualisation either internally (differing strategic priorities, for instance) or in terms of its external environment (competitive dynamics or differing regulatory regimes or national institutional frameworks, for instance). In particular, little of this work has probed, on the basis of 'first-hand' empirical research, the organisational dynamics of TNC subsidiaries as they emerge, evolve and impact on particular economies (sub-national as well as national) and even less of it has dealt with domestic firms, be they associated or not with foreign companies. The few notable monographs that engage with these questions (eg. Gereffi 1983, Henderson 1989, Doner 1991, Sklair 1993) only serve to underline the general rule. While the situation has improved in more recent years, it has been largely the work on business networks that, in the above methodological sense, has made the running (eg. Gereffi and Korzeniewicz 1994, Humphrey 2000, Kaplinsky 2000, *IDS Bulletin*, 32/3, 2001).

There is, of course, a considerable amount of research on firms that has been conducted by sociologists of work and organisation and by specialists in management studies. However, this has been largely confined to companies in developed economies and the former state-socialist societies of Central and Eastern Europe, and where it has been conducted by management specialists, it has remained outside the social science mainstream and thus has largely failed to influence (or be influenced by) more general discourses. Where work of this nature has been conducted in the developing world, it has been done largely by feminist researchers and has tended to engage more with gender-related issues than with the broader questions of industrial organisation and economic development (see for instance, Elson and Pearson 1981, Heyzer 1986, Mitter and Rowbotham 1995).

A further – and given contemporary circumstances, perhaps fatal – analytic disjuncture is that research on economic development (as with the vast majority of social science) has been state-centric in its assumptions and analyses[3]. While world-systems theory has provided an analytic framework that promises to move beyond these limitations, it is a framework that has yet to act as a significant guide to empirical work on contemporary problems of development. In this context, the national state continues to be the conventional unit of analysis for the majority of studies of the world economy. However, exclusive attention to this level of aggregation is becoming less useful in the light of the changes occurring in the organisation of economic activities which increasingly tend to slice through, while still being unevenly contained within, state boundaries.

Indeed, Castells has argued that the world is being transformed from a ‘space of places’ into a ‘space of flows’ (Castells 2000a, 2000b). More accurately, perhaps, the social world is being re-constituted by *both* a space of places *and* a space of flows and thus a key issue - not least for economic development and prosperity - has become the nature of the dialectical relation between these spaces and the consequences of that relation.

In order to understand the dynamics of development in a given place, then, we must comprehend how places are being transformed by flows of capital, labour, knowledge, power etc. and how, at the same time, places (or more specifically their institutional and social fabrics) are transforming those flows as they locate in place-specific domains. Globalisation (for that is the shorthand for our concerns) has undercut the validity of traditional, state-centred, forms of social science, and with that the agendas that hitherto have guided the vast majority of research on economic and social development. Investigations adequate to the study of globalisation and its consequences demand of social scientists the elaboration of analytic frameworks and research programmes that simultaneously foreground the dynamics of uneven development transnationally, nationally and sub-nationally. Such investigations require us to focus on the flows *and* the places *and* their dialectical connections as these arise and are realised in the developed and developing worlds alike. Additionally, if the object of our endeavours is the promotion of the possibilities for economic development and prosperity, then we should recognise that in order to speak authoritatively on these issues, we need to study what firms do, where they do it, why they do it, why they are allowed to do it, and how they organise the doing of it across different geographic scales.

In a nutshell, what we need are analyses of economic globalisation 'on the ground'. This paper outlines a framework for guiding such analyses: the global production network (GPN). In so doing it highlights the role of competitive dynamics and regulatory regimes in maximising the benefits that developing economies might derive from networked forms of international business organisation. The associated paper (Henderson 2002) outlines a research project designed to study the architecture and developmental consequences of GPNs for particular economic sectors in a number of developing countries. While the GPN is not advanced as a totalising framework capable of grasping the myriad complexities of economic globalisation, it is suggested here that it is capable of delivering a better analytic purchase on the changing international distribution of production and consumption - and thus the viability of the different development strategies to which they relate - than previously has been possible.

As the GPN is a new framework[4], I begin with a few brief reflections on its most relevant precursors. I then outline its conceptual elements before moving on to its methodological principles and the roles of competition and regulation in maximising the benefits of GPNs for developing countries.

CRITICAL REFLECTIONS ON RELATED APPROACHES

Over the past twenty years or so, a plethora of studies has emerged using some variant or another on the concept of chains or networks[5]. The result is a considerable degree of confusion in the use and meaning of the terminologies employed (cf. Sturgeon 2001). Although the approaches often overlap with one another they derive from different intellectual domains and, therefore, carry with them different kinds of intellectual 'baggage'. One difference between these approaches is between those that stem from the business-managerial literature and those that have evolved within an economic-developmental framework. A second difference is between those that employ a 'chain' metaphor and those that adopt a 'network' perspective (although the distinction is not always clear-cut).

Chain concepts

The *value chain* or *value-adding chain* is an old-established concept in industrial economics and in the business studies literature. It has been used most prominently by Michael Porter (1985, 1990) and has achieved very wide currency in the management community. Like all uses of the chain metaphor its value lies in its emphasis on the sequential and inter-connected structures of economic activities, with each link or element in the chain adding value to the process (value being defined in terms of the pay-off to the business firm). For purposes of this paper, Porter's conceptualisation has a limited utility because it is bounded by the firm or inter-firm network and pays no attention to issues of corporate power, the institutional contexts of – and influences upon – firm-based activities, or to the territorial arrangements (and their profound economic and social asymmetries) in which the chains are embedded. As a consequence, it has little relevance for the study of economic development.

Of greater importance is the concept of the *filière*, which is defined as a system of agents producing and distributing goods and services for the satisfaction of a final demand. Developed in the 1970s by French economists in order to achieve a more structured understanding of economic processes within production and distribution systems, the concept stems from a predominantly empirical tradition, the main objectives of which are to map commodity flows and to identify the agents and activities within the *filière* (Raikes et al. 2000). By doing so, hierarchical relationships between the agents can be identified, allowing for a detailed analysis of the dynamics of economic integration and disintegration.

It is difficult to identify a distinct theoretical core for the *filière* approach. Indeed, there is a plurality of theories underlying recent *filière* analyses, particularly those of regulation (in the sense used in French-influenced political economy) and convention theory[6]. Although the *filière* approach focuses on agents within the system, as well as on dependency and the distribution of power, it concentrates mainly on two types of agent – large firms and (national) state institutions – and how their scope of activity is limited by technological constraints. Hence the spectrum of agents in production networks, their role in shaping these networks and thus influencing development at different geographic scales, is only partially dealt with.

By far the most useful of the chain conceptualisations of economic activities is Gary Gereffi’s *global commodity chain* (*GCC*). The characteristics of the GCC framework have been extensively outlined both in Gereffi’s own writings (see, for example, Gereffi and Korzeniewicz 1994, Gereffi 1995, 1999a) and in appraisals by others (see, for example, Whitley 1996, Czaban and Henderson 1998 and Dicken et al 2001) so there is no need for recuperation here. It is important, however, to understand the intellectual lineage of Gereffi’s GCC concept and the extent to which it may meet current needs.

Gereffi's work is set within the (broadly defined) ‘dependency’ tradition of analysis. In focusing on the dynamics of the global organisation of production, however, it has a particular affinity with the work in the late 1970s and 1980s on the emergence of a ‘new international division of labour’ and its economic and socio-spatial consequences (cf. Fröbel et al 1980, Henderson and Castells 1987, Henderson 1989). As with the work of Fröbel and his colleagues, Gereffi's contribution was an explicit attempt to operationalise some of the world-systems categories for the empirical study of cross-border firm-based transactions and their relation to development (Gereffi 1995). Unlike their work, however, it broke with the static (and now empirically redundant) spatial categories of the core/semiperiphery/periphery typology and, as such, was better able to grasp the reality of the 'new' forms of industrial organisation that had become the objects of scholarly attention during the 1980s and 1990s.

For Gereffi and his collaborators, global commodity chains consist of:

> 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 et al 1994: 2).

With the exception of trade unions and other NGOs, this definition incorporates most of the elements relevant to the organisation of firm and inter-firm networks and their relation to the possibilities for economic and social development. However, only a few of these elements have been followed through empirically or analytically by Gereffi, his collaborators, or others who have worked in this vein[7]. In particular, the focus has been overwhelmingly on the *governance* dimension of GCCs and on a bi-modal distinction between producer-driven and buyer-driven GCCs at that. This distinction, however, is a crude one and it leads to problems.

First, although the rationale for this distinction lies in differential barriers to entry into the various product markets (Dicken et al 2001), it is clear that the distinction is intended to refer to sectorally and organisationally specific empirical realities. It is not, then, an ideal-typical construction.

Second, much of the work from within the GCC tradition has been concerned with currently existing chains. Hardly any of it seeks to re-construct the history of the nature and implications of the chains. This is an important omission because the social relations embodied in chains at one point in time impose a path-dependency and constrain the future trajectories of chain development. For example, the institutional contexts and social arrangements of the state-socialist period linger on and circumscribe in important ways the potential for economic and political development in the ‘transitional’ economies of Eastern Europe (cf. Stark 1992, Hausner et al 1995, Czaban and Henderson 1998).

Third, there have been few attempts to understand the significance of firm ownership (domestic or foreign, and in the latter case, by nationality) for economic and social development in particular societies. Even though this ‘silence’ may be a product of the GCC scheme’s primary concern with buyer-driven chains, there is clearly a need to recognise that the ‘nationality’ of firm ownership may be a key element in economic and social progress[8].

The fourth problematic issue for the GCC framework is the fact that commodity chains link not only firms in different locations, but also the specific social and institutional contexts at the national (sometimes sub-national) level, out of which all firms arise, and in which all – though to varying extents – remain embedded. The implication of the GCC framework seems to be that firms are principally reflexes of the way given commodity chains are organised and of the structural requirements this imposes on their operation in any given location. In this scheme of things firms appear to have little autonomy to develop relatively independent strategies (though this seems crucial for the prospects for sustained development). Additionally there appears to be little room for understanding where national and local differences in labour market organisation, working conditions etc. come from. In our view these issues cannot be effectively theorised unless it is understood that inter-firm networks link societies which exhibit significant social and institutional variation, embody different welfare regimes and have different capacities for state economic management: in short, represent different forms of capitalism (cf. Boyer and Drache 1996, Whitley 1999, Coates 2000).

As an emerging theory of development, however, the GCC perspective has much to recommend it. Not least, it has helped to spawn important empirical work on footwear, garments, electronics, horticulture, tourism and auto-components and has provided the analytic rationale for what could become new policy initiatives from the International Labour Office (ILO)[9]. It carries forward the task of transcending the limitations of state-centred forms of analysis and in so doing highlights the restrictions on firm – and thus economic and social – development that arise from the structure of corporate power embedded in the intra and inter-firm networks which circle the globe. By helping to show that the capacities to generate value are asymmetrically distributed because of the structure of GCCs, the perspective points to the existence of new forms of 'dependent development', as well as to possible ways of transcending those constraints.

Network concepts

> A chain maps the vertical sequence of events leading to the delivery, consumption and maintenance of goods and services – recognising that various value chains often share common economic actors and are dynamic in that they are reused and reconfigured on an ongoing basis – while a network highlights the nature and extent of the inter-firm relationships that bind sets of firms into larger economic groupings (Sturgeon 2001: 10)

A major weakness of the 'chain' approach is its conceptualisation of production and distribution processes as being essentially vertical and linear. In fact, such processes are better conceptualised as being highly complex *network* structures in which there are intricate links – horizontal, diagonal, as well as vertical – forming multi-dimensional, multi-layered lattices of economic activity. For that reason, an explicitly relational, network-focused approach promises to offer a better understanding of production systems.

One such approach is *actor-network theory* (ANT) which emphasises the relationality of both objects and agency in heterogeneous networks ('relational materiality'),
pointing out that entities in networks are shaped by, and can only be understood through, their relations and connectivity to other entities (Law 1999: 4). For the study of global production networks, this means that space and distance have to be seen not in absolute, Euclidean terms, but as 'spatial fields' and relational scopes of influence, power and connectivity (Harvey 1969, Murdoch 1998). Amongst other things, this has important implications for the conceptualisation of the 'global' and of 'globalisation'[10].

Another important aspect of ANT is its rejection of artificial dualisms such as the traditional global-local and the structure-agency dichotomies. Finally, ANT conceptualises networks as hybrid collectivities of human and non-human agents and thus allows the consideration of the important technological elements that underlie and influence economic activities. However, whilst ANT offers an interesting methodology, that has been adopted already for the study of globalisation and production networks (see, for instance, Whatmore and Thorne 1997), its contribution to the analysis of economic development is constrained by the fact that it lacks an appreciation of the structural preconditions and power relations that inevitably shape production networks (Dicken et al. 2001: 107).

One contribution with a direct affinity to the framework sketched below, is Dieter Ernst's version of the *global production network*. Ernst conceives of a GPN as a particular kind of organisational innovation, namely one that:

> combine(s) concentrated dispersion of the value chain across firm and national boundaries, with a parallel process of integration of hierarchical layers of network participants. (Ernst and Kim, 2001: 1)

The fundamental rationale for firms to establish GPNs of this nature is supposedly to access flexible, specialised suppliers in lower-cost locations. The GPN is seen to supersede the transnational corporation as the most effective form of industrial organisation, a shift that has emerged in response to three constituent processes of globalisation; namely, the ascendancy of liberalisation policies, the rapid up-take of information and communication technologies, and the onset of global competition.

The empirical evidence used to illustrate this alleged wholesale shift in industrial organisation is anecdotal and almost exclusively drawn from the electronics and information technology industries. Consequently, rather than having developed an explanatory category of general relevance, Ernst has tended to highlight only one particular form of industrial organisation; and one, at that, which seems to be drawn from a sectorally narrow range. Ernst's work is particularly helpful, however, in that he highlights a number of key problems that have hindered previous research in this area.

First, he criticises the tendency to focus narrowly on the role of key 'flagship' firms within GPNs at the expense of attention to network suppliers that are more than one stage removed from the flagship. Second, he notes that in mapping the dispersion of production units, research has often overlooked the wide range of service functions (from design to marketing and beyond) that are crucial to the viability of GPNs. Third, Ernst notes a pre-occupation with formal R&D and technology transfers, which may preclude an appreciation of the importance of diffusion of less codified forms of knowledge. Indeed, much of Ernst's research under the GPN banner has been concerned with the potential for different forms of knowledge (which he variously terms 'embrained', 'embedded', 'encultured') to be diffused from GPNs in developing country locations and thereby stimulate local industrial upgrading (see, for example, Ernst, 2000).

GLOBAL PRODUCTION NETWORKS

The concept of the global production network (GPN) outlined in the remainder of this paper draws on many aspects of the work outlined in the preceding section. In particular, it builds upon the work of Gereffi and his collaborators but takes seriously the criticisms that have been levelled against it. Concomitantly, the framework aims to provide a more generally applicable conceptualisation of the GPN than that of Ernst.

The global production network as proposed here is a conceptual framework that is capable of grasping the global, regional and local economic and social dimensions of the processes involved in many (though by no means all) forms of economic globalisation[11]. Production networks – the nexus of interconnected functions and operations through which goods and services are produced, distributed and consumed – have become both organisationally more complex and also increasingly global in their geographic extent. Such networks not only integrate firms (and parts of firms) into structures which blur traditional organisational boundaries - through the development of diverse forms of equity and non-equity relationships - but also integrate national economies (or parts of such economies) in ways which have enormous implications for their well-being. At the same time, the precise nature and articulation of firm-centred production networks are deeply influenced by the concrete socio-political contexts within which they are embedded. The process is especially complex because while the latter are essentially territorially specific (primarily, though not exclusively, at the level of the nation-state) the production networks themselves are not. They 'cut through' state boundaries in highly differentiated ways, influenced in part by regulatory and non-regulatory barriers and local socio-cultural conditions, to create structures which are 'discontinuously territorial'.

The GPN framework explicitly recognises that:

- firms, governments and other economic actors from different societies sometimes have different priorities vis-à-vis profitability, growth, economic development etc (as was made clear, for instance, in the commentary surrounding the East Asian crisis; eg. Chang 1998 and Henderson 1999) and consequently the production network's implications for firm and economic development at each spatial location cannot be 'read-off' from the logic of the network's organisation and the distribution of corporate power within it. The GPN perspective, in other words, accords a degree of relative autonomy to domestic firms, governments and other economic actors (e.g. trade unions, where relevant) whose actions (including competition and regulatory policies) potentially have significant implications for the economic and social outcomes of the networks in the locations they incorporate.

- input-output structures within the networks are centrally important, not least because it is these that constitute the sites where value is generated and where the enormous variations in working conditions that exist around the world, are delivered. Consequently any work on intra and inter-firm networks must pay significant attention to these structures and their consequences.

- an understanding of the 'territoriality' of production networks – namely, how they constitute and are re-constituted by the economic, social and political arrangements of the places they inhabit – is central to an analysis of the prospects for development at the local level.

- the distinction between 'producer-driven' and 'buyer-driven' networks is more fluid than Gereffi's work allows for, with combinations of both in the same product areas, and indeed in some cases (e.g. auto components and consumer electronics) the same sector.

- in some sectors (pharmaceuticals and some electronics for example) technological alliances and licensing agreements are forms of inter-firm association that may have significant developmental implications. Consequently they require attention in their own right.

Methodologically, then, the GPN perspective directs attention to:

- the networks of firms involved in R&D, design, production and marketing of a given product, and how these are organised globally, regionally and nationally;

- the distribution of corporate power within those networks and changes therein;

- the significance of labour and skill and the processes of value creation and transfer;

- the government agencies that develop and implement competition and regulatory policies that can affect the developmental outcomes of TNC subsidiary and local-firm participation in the networks;

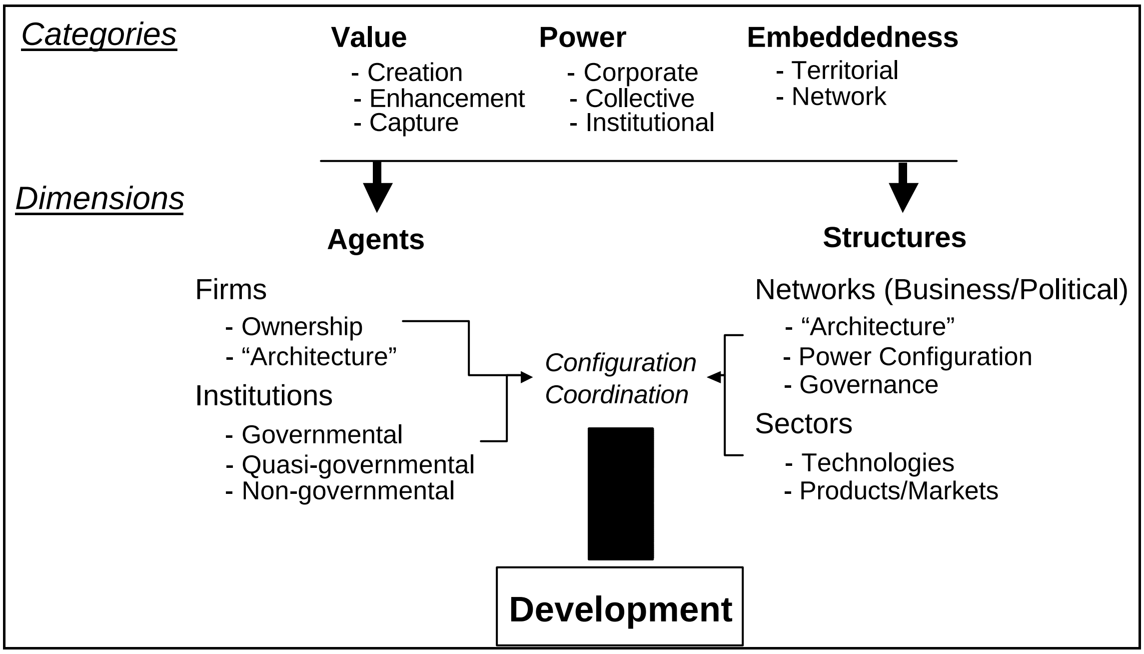
- the international agencies (the WTO in particular) whose policies influence the trading climate and the competitive contexts in which TNC and local firms operate;

- the other institutions - trade unions, employer associations and NGOs - that can influence firm strategy and government policy in the particular locations absorbed into the production network;

- the implications of all of these for technological upgrading, value-adding and capturing, economic prosperity and the rest, for the various firms and societies absorbed into the networks.

For the purposes of elaboration the components of the GPN framework can be disaggregated by reference to Figure 1.

Figure1: A Framework for GPN Analysis



Source: Henderson et al (2002)

Conceptual Categories

There are three principal elements on which the architecture of the GPN framework is raised. The first of these is:

Value: By 'value' we mean both Marxian notions of surplus value and more orthodox ones associated with economic rent. Thus we are interested in the following matters.

- The initial *creation* of value within each of the firms incorporated into a given GPN. The significant issues here include the conditions under which labour power is converted into actual labour through the labour process; and the possibilities for generating various forms of rent. In the former the issues of employment, skill, working conditions and production technology are important as well as the circumstances under which they are reproduced (hence connecting these issues to broader social and institutional questions). In the latter (see Kaplinsky 1998, Gereffi 1999b) the issues are whether a given firm can generate rents from (a) an asymmetric access to key product and process technologies ('technological rents'); (b) from particular organisational and managerial skills such as 'just-in-time' production techniques and 'total quality control' etc. ('organisational rents'); (c) various inter-firm relationships that may involve the management of production linkages with other firms, the development of strategic alliances, or the management of relations with clusters of small and medium sized enterprises ('relational rents'); or (d) from establishing brand-name prominence in major markets ('brand rents'). In certain sectors and circumstances (e) additional rents may accrue to some firms as a consequence of the product scarcities created by protectionist trade policies ('trade-policy rents'), though this is another issue that connects questions of value creation to the institutional contexts (national and international in this case) within which firms operate.

- The circumstances under which value can be *enhanced.* The issues involved here include: (a) the nature and extent of technology transfers both from within and without the given production network; (b) the extent to which lead and other major firms within the network engage with supplier and subcontractors to improve the quality and technological sophistication of their products; (c) as a consequence, whether demands for skill in given labour processes increase over time; (d) whether local firms can begin to create organisational, relational and brand rents of their own. In all of these cases, the national institutional influences to which the firms are subject (governments agencies, trade unions, employer associations, for instance) may be decisive for the possibilities of value enhancement[12].

- The possibilities that exist for value to be *captured.* It is one thing for value to be created and enhanced in given locations, but it may be quite another for it to be captured for the benefit of those locations. The pertinent issues here partly involve (a) matters of government policy, but they also involve (b) questions of firm ownership and (c) the nature of corporate governance in given national
- contexts. In the first case, the nature of property rights and thus laws governing ownership structures and the repatriation of profits can be important, while in the second the extent to which firms are totally foreign owned, totally domestically owned, or involve shared equity as in joint-venture arrangements, continues to be decisive as a long tradition in the political economy of development has argued and recent experience in Britain, for instance, has underlined[13]. In the third case, the extent to which corporate governance is founded on stakeholder principles, rather than on

shareholder dominance (and required by legal statute) can have important consequences for whether value generated in a given location is retained there and indeed used to be benefit of the common weal[14]. The issue of value capture, then, underlines the significance of the national form of capitalism – and thus matters of expectations, rights and obligations – for questions of economic and social development.

Power: The source of power within the GPNs and the ways in which it is exercised is decisive for value enhancement and capture and thus for the prospects for development and prosperity[15]. There are three forms of power that are significant here.

- *Corporate* power. Here we have in mind the extent to which the lead firm in the GPN has the capacity to influence decisions and resource allocations – vis-à-vis other firms in the network – decisively and consistently in its own interests. Our adoption of a network discourse implies a rejection of a zero-sum conception of power in that lead firms rarely, if ever, have a monopoly on corporate power. Rather, while power is usually asymmetrically distributed in production networks, lesser firms sometimes (and for contingent reasons) have sufficient autonomy to develop and exercise their own strategies for upgrading their operations etc. Additionally, and at least in principle, lesser firms incorporated into networks have the possibility of combining with other lesser firms to improve their collective situation within the GPN (as when SME clusters constituted as industrial districts are incorporated into GPNs)[16].

- *Institutional* power. Our reference here is to the exercise of power by (a) the national and local state (in the latter case where the national state is constituted as a federal polity); (b) international inter-state agencies ranging from the increasingly integrated European Union on the one hand through to looser confederations such as ASEAN or NAFTA on the other; (c) the 'Bretton Woods' institutions (International Monetary Fund, World Bank) and the World Trade Organisation; (d) the various UN agencies (particularly the ILO); and (e) the international credit rating agencies (Moodys, Standard and Poor etc) which exercise a unique form of private institutional power. The capacity to exercise power to influence the investment and other decisions of lead companies and other firms integrated into GPNs is inevitably asymmetric and varies both within and between these five categories. Thus with regard to national states, some of those in East Asia (particularly South Korea and Taiwan, but more recently China) have been perceived in recent decades as being amongst the most capable of influencing private companies in the interests of industrialisation and development (among an enormous literature see Wade 1990 and Henderson 1993) while states as disparate as those of Britain and Indonesia have been far less able to do so[17]. The power of the inter-state agencies is potentially considerable – particularly in the case of the EU – though elsewhere it remains weakly developed. The power of the Bretton Woods institutions, while it can be considerable, is exercised indirectly and impacts on companies, workforces and communities via the economic and social policies that national governments are obliged to implement. The power of the UN agencies is of much less significance than any of the others in that its influence on firms is not merely indirect, but it is also only moral and advisory. The significance of the credit rating agencies is potentially considerable, both directly for many lead companies and indirectly via their credit risk assessments of national governments. However, we as yet know little of the ways in which their influence is exercised (but see Sassen 1999).

- *Collective* power. By this form of power we understand the actions of collective agents who seek to influence companies at particular locations in GPNs, their respective governments and sometimes international agencies (most recently the IMF and WTO in particular). Examples of such collective agents include trade unions, employers associations, and organisations that advance particular economic interests (e.g. of small businesses), NGOs concerned with human rights, environmental issues etc. These agencies may be nationally or locally specific, or they may be internationally organised as with some trade unions (e.g. the International Metal Workers) or human rights organisations (e.g. Amnesty International). In most circumstances where such agencies are engaged, they attempt to exercise countervailing power either directly on particular firms or groups of firms within given networks or indirectly on national governments or international agencies.

Embeddedness: GPNs do not only connect firms functionally and territorially but also they connect aspects of the social and spatial arrangements in which those firms are embedded and which influence their strategies and the values, priorities and expectations of managers, workers and communities alike. The ways in which the different agents establish and perform their connections to others and the specifics of embedding and disembedding processes are to a certain extent based upon the origins, histories and customs of the agents themsleves. Firms - be they TNCs or smaller local enterprises - arise from, and continue to be influenced by, the institutional fabrics and social and cultural contexts of particular forms of capitalism (or in the case of Eastern Europe, China etc. prior to the 1980s, particular forms of state socialism) in their countries of origin. While the nature of education, training and labour systems and the sources and organisation of corporate finance are important, of particular significance for firm development, priorities and strategies are the nature of state policy and the legal framework (cf. Zysman 1983, Hutton 1995, Whitley 1999).

Local companies that have emerged from particular social and institutional contexts evolve over time on the bases of trajectories that are in part a reflection of these contexts. As many scholars have pointed out with regard to the former state socialist societies of Eastern Europe, these trajectories are 'path dependent' and thus to some extent historically constrained (for instance, Stark 1992, Hausner et al 1995, Czaban and Henderson 1998). While it is important to recognise that such constraints are not immutable and that their influence may be waning - not least because of globalisation - it is also important to acknowledge that some lead firms when investing overseas may carry the institutional 'baggage' of their home bases with them. But others might also tend to operate at or near the lowest common denominator that domestic policies and legal frameworks will allow[18].

Amongst the different dimensions and aspects of embeddedness[19], there are two related forms of firm and network embeddedness that are of interest here. The first form, *territorial*, deals with the various GPN firms' 'anchoring' in different places (from the nation state to the local level), which affects the prospects for the development of these locations. The second form, *network* embeddedness, refers to the network structure, the degree of connectivity within a GPN, the stability of its agents' relations and the importance of the network for the participants. Both forms, of course, are the result of essentially social and spatial processes of 'embedding'.

- *Territorial* embeddedness. GPNs do not merely locate in particular places. They may become embedded there 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. One example here is the way in which the GPNs of particular lead firms may take advantage of clusters of small and medium enterprises (with their decisively important social networks and local labour markets) that pre-date the establishment of subcontracting or subsidiary operations by such firms.
- Moreover, the location of lead firms in particular places might generate a new local or regional network of economic and social relations, involving existing firms as well as attracting new ones. Embeddedness, then, becomes a key element in local economic growth and in capturing global opportunities (Harrison 1992, Amin and Thrift 1994)[20]. The resulting advantages in terms of value creation etc. may result in spatial 'lock-in' for those firms with knock-on implications for other parts of that firm's GPN (see Grabher 1993 and Scott 1998). Similarly, national and local government policies (training programmes, tax advantages etc.) may function to embed particular parts of the GPN in particular cities or regions, in order to support the formation of new nodes in the global networks. But the positive effects of embeddedness in a particular place cannot be taken for granted
- over time. This is particularly true in the poorer parts of the developing world
- where network embeddedness is likely to be limited and its longevity, in the
- absence of local industrial and educational upgrading, is likely to be fragile. For
- example, once a lead firm cuts its ties within a region (for instance, by
- disinvestment or plant closure), a process of disembedding takes place (Pike et al.
- 2000: 60-1), potentially undermining the previous base for economic growth and
- value capture. From a development point of view, then, the mode of territorial
- embeddedness or the degree of a GPN firm's commitment to a particular location is an important factor for value creation, enhancement and capture.

- *Network* embeddedness. GPNs are characterised not only by their territorial embeddedness, but also by the connections between network members regardless
- of their country of origin or local anchoring in particular places. It is most notably the 'architecture', durability and stability of these relations, both formal and informal, which determines the agents' individual network embeddedness (actor-network embeddedness) as well as the structure and evolution of the GPN as a whole. While the former refers to an individual's or firm's relationships with other actors, the latter consists not only of business agents involved in the production of a particular good or service, but also takes

the broader institutional networks including non-business agents (e.g. government and non-government organisations) into account. Network embeddedness can be regarded as the product of a process of trust building between network agents, which is important for successful and stable relationships. Even within intra-firm networks, where the relationships are structured by ownership integration and control, trust between the different firm units and the different stakeholders involved might be a crucial factor, such as in the case of joint ventures (Yeung 1998).

Conceptual Dimensions

The categories sketched above are 'energised' and 'live' through a number of conceptual dimensions. These constitute the frameworks through which value is created, power exercised or institutional embeddedness etc. given concrete effect in terms of particular initiatives and policies. There are four broad dimensions that are of significance.

Firms

One firm is clearly not the same as another. Firms, even within the same sector, differ in terms of their strategic priorities, their attitudes to labour relations, the nature of their relations with suppliers etc. As a consequence one would expect that while there may be similarities between the ways in which firms in the same sector operate (generate value, exercise their power over suppliers etc.), there will still be important firm-specific differences, not least in terms of the locations where lead firms decide to invest or establish supplier and subcontractor connections. These differences may stem from the nature of ownership (equity arrangements, and/or 'nationality'), managerial whim or they may derive from values embodied in the firm's evolution[21]. Whatever the source of these differences it is likely that they have implications for the ways in which their GPNs are constructed (if they are lead firms) or for the ways in which they participate (seek to develop and exercise autonomy, for instance) in other firm's GPNs (if they are suppliers and subcontractors).

Sectors

While GPNs have characteristics that are firm-specific, firms that operate in the same sector are likely to create GPNs that have some degree of similarity. The reasons for this are that similar technologies, products and market constraints are likely to lead to similar ways of creating competitive advantage and thus broadly similar GPN architectures. Thus, for our purposes, a sector needs to be defined by criteria other than mere statistical classification. Besides being a unique structure of competition and technology, firms in the same economic sector usually share a common ‘language’ and a particular communication structure specific to that sector[22]. A sector not only includes a range of companies, from the sector’s leading producers to suppliers of different elements, including service functions, but its governance structure is often complemented by purpose-built organisations, such as industrial pressure groups (for instance, employer and labour associations), vocational training institutions or others. These sectoral particularities create sector-specific regulational environments, were particular issues are addressed by government policies at different scales. Examples of these include the supra-national multi-fibre-agreement for the textiles and clothing sector and national ‘sector’ policies to foster innovation and competitiveness (as is the case of some Asian countries’ automobile and electronics industry policies).

Networks

It is within the various networks that particular issues of governance arise. As the ways in which power is mobilised and exercised is likely to vary for a combination of firm and sector-specific reasons, it is reasonable to expect that the architecture of governance is likely to exhibit considerable variation. As a consequence there is likely to be significant variation, for instance, in the extent to which secondary firms in a given network are capable of exercising a degree of autonomy that would allow them to move into higher value-added activities with their more positive implications for economic development. Pending much more research that is open to such variations, it is premature to move towards a conceptual closure of network governance structures.

Institutions

In principle the institutional arrangements impact both locally and globally on the GPNs. They can be of considerable importance in the generation of value locally, in its enhancement and in its capture. Additionally they can be of utmost significance in setting standards (including the moral tone) for labour relations, working conditions and wage levels. They are, in other words, central to the question of whether GPNs can deliver sustained economic and social development in the locations they incorporate. It is important to recognise, of course, that the consequences which institutions have for GPNs and their local and international operations and implications, can be positive or negative. In the latter sense the institutional fabric of post-socialist Russia, for instance, seems to be a case in point for all but criminal networks (see Castells 2000b: Chapters 1 and 3) as are some of the recent policy decisions of the IMF (in relation to the East Asian crisis, for instance) and WTO.

GLOBAL PRODUCTION NETWORKS, COMPETITION AND REGULATION

The antecedents to the GPN framework sketched above, and the GPN framework itself, have thus far placed little emphasis on issues of competition. Issues of regulation, however - particularly as part of the broader question of economic and industrial policy - have been perceived as central to the prospects of positive network consequences for economic development in particular national or sub-national territories. This relative lack of attention to competition requires explanation as it will need to be corrected in the research project to which this paper relates. I deal with this matter first before turning to regulation issues.

Intensifying global competition has been one of the prime factors that has driven some TNCs to move beyond 'mere' FDI to establish organisationally more elaborate international production systems. While the dynamics and consequences of the headquarter-overseas subsidiary organisational form are well-understood - not least from the literature stimulated by the 'new international division of labour' form of analysis and derivations from it (eg. Frobel et al 1980, Henderson 1989, Dicken 1998) – it has been a moment in the evolution of international production systems that while still relevant in some industries (automobile assembly and semiconductors, for instance)[23], has in others been transcended. Consistent with the rise of high quality technical and managerial skills in some newly industrialised and developing economies, it has been possible for some time for TNCs to utilise those skills - embodied in domestic firms - to both produce and organise the production of the commodities in question. This has led to an explosion of the numbers of 'original equipment manufacturers' (OEMs) and its obverse for TNCs, the 'manufacturer without factories' phenomenon. Such arrangements now dominate industries as disparate as garments, consumer electronics (including personal computers, some mobile phones etc.), automobile components, footwear, a variety of metal products (such as bicycles[24]), some foodstuffs etc. In such arrangements it is the control of a globally recognised brand name that is crucial, for it is at that point (as well as marketing) that most of the value associated with such products accrues and is captured (Henderson 1994, 1998).

From the perspective of the developing country firm the question arises as to how it can best exploit the dynamics of global competition in a given industry so that it can improve its own performance. Clearly very much depends here on whether there is a plurality of global competitors in a given industry operating directly or at arms length in a given economy. Even where there is, exclusive - or near exclusive - supplier arrangements are relatively common in such circumstances[25]. Secondly, while it is one thing for a developing country firm to enter a TNC's GPN - typically on the basis of its low cost operations - it is another for it to remain in that network. As many studies have shown, if low cost operations are all that developing country firms have to offer to the world economy, they are unlikely to be able to sustain their position in GPNs in the longer term, unless they are backed by a major and expanding domestic market (see Dicken 1998 for a summary). The developmental trick here is how to ensure that a TNC (be it on the basis of FDI and/or OEM/supplier operations) remains in a given economy in the longer term *and* upgrades (ultimately in terms of value-added[26]) its operations there. For this to be possible, it is usually the case that domestic firms somehow need to lever the GPNs they are part of (and/or be assisted in levering them by government or other agencies) to ensure that their own operations are upgraded and thus become more central to value creation in the network as a whole. Only where this happens are TNC operations likely to become strongly embedded in a given domestic economy to the benefit of that economy's longer-term future. Without it – that is where low cost remains the primary competitive advantage that the firm in question has to offer to the GPN – then sooner or later an even lower cost producer will be identified to perform that particular role in the network[27].

The question that arises is what role might competition policy have to play in encouraging TNCs to develop their GPNs in particular economies and subsequently, perhaps, in helping to ensure that they become embedded and expand their operations there. Again, the research that lies behind the GPN framework has had little to say on this matter in spite of the fact that competition policy may be an important determinant of positive GPN outcomes. International trade policy and its interface with its domestic equivalents, for instance, may be a case in point. Clearly where domestic economies are heavily protected and have relatively small markets, TNCs are unlikely to be interested in establishing GPN connections there unless the country is the source of some highly valued, but relatively scarce resource (a particular mineral, for instance). Where the country has a protected economy, but a potentially large market, however, protection per se may not necessarily be a barrier to GPN-type developments as China has shown over the last two decades and South Korea (with selective protection) until 1993 (see Hsing 1997 and Chang 1994 respectively).

The issue of trade protection is, of course, a highly contentious one. In spite of the policy prescriptions derived from the economic orthodoxy and the advice and political pressure (from international agencies and leading national governments) for developing countries to free their markets, the fact of the matter is that world's principal industrial economies did not develop on the basis of free markets. As Chang (2002) has shown, trade protection was a central component of the development strategies of all of the industrial economies when they were themselves developing economies, including in the cases of Britain, Germany and the United States[28]. As it was in the past, so it is today. While 'blanket' market protection coupled with monopolistic (in the strict sense) control of domestic markets can be debilitating from the development perspective, more sensitive (that is, targeted) protection, with or without oligopolistic market control, can have positive benefits as many of the East Asian economies have shown[29]. Current obsessions with the need for free trade in developing economies clearly need to be abandoned in favour of a less ideological and more historically informed and empirically contingent approach to the role of trade policy in the development process.

In general, the development record for over two hundred years suggests it is not in the best interests of infant industries in developing economies to be subject to the full gale force of international competition. Consequently, such contemporary issues as the nature and time-span of opt-outs from WTO prescriptions or preferential arrangements for developing country exports to major markets[30] may be decisive for development prospects while at the same time being - at worst -neutral from the perspective of foreign investment and the absorption of local firms into GPNs. Conversely, the real issue of the impact of trade protection for development prospects lies with the protection of the major markets that are the focus of developing economy exports. It is probably in that context that market protection can have the most negative consequences for the prospects of developing economy firms becoming absorbed into, and benefiting from, GPNs.

If the implications of international competition for GPNs and development are not as clear-cut as orthodox opinion might suggest, what of intra-national competition? Again the issues are not straight forward and the newly industrialised countries of East Asia once more present interesting comparisions. South Korea between the mid 1960s and the early 1990s, for instance, was a case of state regulation of external and internal markets where those markets, in a vast range of commodities, were dominated by oligopolistic conglomerates: the chaebol. While the state was partly responsible for driving forward the competitive advantage of the chaebol, its internal competition policies combined with the chaebol's own rivalry ensured that their competitive advantage (in steel, shipbuilding, automobiles, electronics etc.) were a product of 'regulated competition' (cf. Amsden 1989, Chang 1994, Kim 1997). Taiwan's industrialisation was also, in part, a matter of effective state mediation between the domestic and international markets, selective (and variable) import protection and other mechanisms typically associated with strategic economic planning. In its case, however, export dynamism was a product of highly competitive SMEs, albeit supported by oligopolistic (and sometimes state or ruling-party owned[31]) upstream suppliers (Wade 1990).

Clearly, then, competition – and state policy which not only encourage, but also regulates it – can have very positive implications for the development process. In the case of both Taiwan and South Korea, for instance, it is clearly the domestic competitive dynamic that has been partly responsible for the upgrading of many firms there within a variety of GPNs[32]. Over and above questions of competition policy, however, the extent to which domestic companies might be absorbed into GPNs and subsequently upgrade their operations within them, may be more a matter of industrial policy rather than competition policy per se. One of the problems with the economic orthodoxy is that it has tended to disable policy makers intellectually when it comes to contemplating the best ways of utilising foreign investment and knowledge for the purposes of industrial development. Specifically it has tended to devalue the positive role that can be played by strategic industrial policy in the development process and which has been used to great effect, over many years, by many countries, including the now developed Western economies (see Chang 2002 for a summary).

When it comes to the existence of domestic companies that can inter-face with foreign dominated GPNs, the question may be more about whether various inputs can be provided locally (capital in its various forms and qualities, including labour), whether an appropriate physical and technical infrastructure exists etc., than whether markets approximating some competitive ideal organise the production of goods and services. The recent economic history of China - a country where property rights remain ambiguous, the rule of law still does not exist and the state still controls the economy's 'commanding heights' - surely suggests that while competitive markets are important, they are insufficient for rapid development[33]. Posing this question (industrial *and* competition policy, rather than vice versa), however, leads more appropriately to issues of regulation.

Consistent with the foregoing discussion, when it comes to the analysis of GPNs and their policy implications, regulation needs to be seen in both the narrow sense of regulating the practices of particular sectors or industries and in the broader sense of not only economic (including industrial) policy, but also of policies that bear on questions of redistribution. In the former sense, environmental regulation and the regulation of corporate social practices (with regard to child labour, working conditions, wages etc.) are particularly important. In the latter sense a whole range of policy agendas are of potential significance. These range from policies that bear on technology and knowledge transfers and local content stipulations through to education policy and requirements for companies to upgrade skills. Under certain circumstances they can also involve attention to questions of financial regulation, particularly where partial disengagement from international financial transactions is important for domestic economic stability[34]. Additionally, when it is recognised that absorption into GPNs is likely to exacerbate existing forms of uneven development (because capital tends to flow to those localities where it is already concentrated), as it has done in economies as disparate as China, Malaysia and Hungary (see, respectively, Henderson 1998, Henderson et al 2002b and Czaban and Henderson 2003b), it becomes clear that regulatory policies will need to have strong redistributional elements if territorially specific humanitarian problems and social conflict are to be avoided (see Scott 2002 for the general argument).

CONCLUSION

In this paper I have reviewed the various attempts to conceptualise inter-firm linkages, nationally and internationally, and assessed their utility for the study of economic development. From a critical interrogation of these 'chain' and 'network' concepts I have distilled an alternative - and I believe better - analytical tool: the 'global production network' (GPN). I have deconstructed the GPN in order to identify and outline its conceptual elements, but particularly to highlight its utility for the study of the operations of developing country firms that have been absorbed into the networks of TNCs. In assessing the ways in which the GPN perspective can help us to analyse the prospects for industrial upgrading - or lack of them - in the developing world, I have examined the likely effects of various forms of competition policy and regulatory regimes on the networks and thus on the possibilities for upgrading.

Throughout the foregoing discussion I have emphasized that in order to study the prospects for firm, and thus economic, development effectively in a 'globalised' world, we not only need to comprehend globalisation as a 'real' phenomenon, we need to develop a new social science; one that builds on, but breaks out from, the state-centric forms that our intellectual endeavour has thus far adopted. In so doing we need to grasp the fact that in order to study development in its myriad economic, social and political forms, we need to study it comparatively, not merely among the developing countries themselves, but also in relation to the dynamic connections (the 'flows') between the developed countries and the developing ones. Only in this way will we be able to create a knowledge-base appropriate to dealing with - and harnessing - 'globalisation on the ground'. The associated paper (Henderson 2002) outlines a modest research project designed to contribute to that task.

Notes

1 Many of the ideas outlined in this paper were developed in association with my colleagues, Peter Dicken and Martin Hess. I am most grateful for their help in this matter. Additionally, the final draft of the paper was completed when I was a visiting scholar at the Centre of Asian Studies, University of Hong Kong. I am grateful to the Centre's Director, Wong Siu Lun and his colleagues for creating such a congenial and stimulating context in which to work.

2 I have in mind here the arguments of the supposed panacea of 'free' markets as development tools, on the one hand, through to the stress on state industrial initiatives on the other, as well as those that view the state-market relation as symbiotic for development purposes. In all of these cases, however, the analytical weight tends to be placed on the nature and application of state economic policy (cf. Evans 1992).

3 I do not mean to deny the relevance of some state-centric contributions to the analysis of globalisation and its problems and how the latter might be resolved. Some of the work on the East Asian crisis, for instance (e.g. Chang 1998, Henderson 1999, Weiss 1999), are cases in point.

4 The notion of the global production network was developed contemporaneously, though independently, by Dieter Ernst on the one hand and Peter Dicken and Jeffrey Henderson on the other. The most developed form of the GPN framework has been provided by Dicken, Henderson and their collaborators (see Henderson et al 2002a).

5 See, for example, Gereffi (1995, 1999a), Gereffi and Korzeniewicz (1994), Sklair (1995) and the *IDS Bulletin* (32/3, 2001) which focuses entirely on global value chains.

6 On the former see, for instance, Jessop's (2001) collection of some of the seminal contributions. On the latter see Storper and Salais (1997, particularly chapter 10).

7 Hardly any work has been done, for instance, on households, states and the reproduction of labour power from within a GCCs perspective.

8 See, for instance, the work on the Brazilian 'reserved market' for personal computers (Evans 1986, Schmitz and Hewitt 1992).

9 See, for instance, the essays collected in Gereffi and Korzeniewicz (1994) and the special issue of the *IDS Bulletin* (32/3, 2001). See also Clancy (1998), Dolan and Humphrey (2000), Bonacich and Appelbaum (2000) and Kaplinsky (2000) among others. The ILO's research institute, the International Institute of Labour Studies, sponsored a research programme on 'global commodity chains' in the late 1990s and a small selection of the results of that work can be found in a special issue of *Global Networks*, Volume 3, which is due for publication in 2003. The continuing media attention to the exploitative working conditions evident in the supplier companies integrated into the chains of the likes of Nike and Gap, for instance, underlines the utility of the GCC framework for agencies such as the ILO.

10 Specifically it implies rejection of the term 'global' as a simplistic geographic construct. Similarly economic 'globalisation', comes to refer to the extension of functionally integrated (and thus socially relational) economic activities across national boundaries (cf. Dicken 1998: 5). The implication of this for the conceptualisation of GPNs is that they come to be seen as dynamic topologies which potentially change shape and scope over time.

11 It is unlikely to be of particular help, for instance, for the analysis of some forms of finance capital such as bank loans and portfolio investment.

12 There is a growing literature that addresses these concerns with respect to differing 'qualities' of foreign direct investment. See, for instance, Turok (1993), Amin et al. (1994) and Young et al. (1994).

13 I have in mind the continuing dis-investment in British subsidiaries (with knock-on effects for local suppliers) by foreign companies. Since 1998 these have included at a minimum: Siemens, Samsung, LG and Motorola (in electronics), BMW, Ford and General Motors (in automobiles) and Corus (steel).

14 Germany on the one hand and Britain and the USA, on the other, constitute polar opposites in this sense. In the latter, shareholders have supreme power over the disposal of profits and assets, while in the former (and in the European Union more generally, with the exception of Britain) owners are obliged to consider the interests of other stakeholders and the workforce in particular (Lane 1989). Indeed in Germany, property holders have a constitutional obligation to exercise their rights in the interests of the public good (Hutton 2001).

15 Although not theorised in terms of power, Humphrey and Schmidt's (2001) discussion of the governance structures of 'value chains' is an important complement, at this point, to the work outlined here.

16 Castells develops ideas similar to these with regard to the exercise of economic and foreign policy by national states absorbed into 'network states' (of which the European Union is the prototype). See Castells (2000b: Chapter 5) and also Carnoy and Castells (2001).

17 This is obviously not the place to explain such discrepancies except to mark that the answers seem to lie in a combination of political will (or its absence) and differing institutional capacities for economic governance. For the British and Indonesian cases see Hutton (1995) and Hill (1996) respectively. For more

general and theoretical accounts of the relation between state capacities and economic development see Evans (1995) and Evans and Rauch (1999).
18 Japanese companies, for instance, have never offered 'permanent employment' contracts to employees in their foreign subsidiaries. Similarly German companies, though required by German and EU legislation to consult extensively with employees before instituting redundancy programmes, have never done so in countries where such laws do not apply. This has been particularly true in developing countries, of course, though recent disinvestments in Britain by Siemens and BMW are also cases in point.
19 As Oinas (1997), Markusen (1999) and Pike et al (2000), among others, have pointed out, the notion of embeddedness still remains rather vague and therefore in need of conceptual improvement. However, its importance for the understanding of economic organisation is widely acknowledged, even by critical voices (see for example, Sayer 2000).
20 There is also a downside. The nature of local networks and socio-economic relations may under certain circumstances generate an inability to capture global opportunities and lead to regional economic downturn (Oinas 1997: 26). Strong embeddedness, therefore, is not necessarily a 'good' or positive quality of networks or its agents.
21 Examples in Britain, for instance, include the ethical stance of such companies as the Co-operative Bank and the Body Shop.
22 I am grateful to Martin Hess for this observation.
23 It is captured, for instance, by Gereffi's notion of 'producer-driven' commodity chains (Gereffi 1994).
24 The leading British bicycle company, Raleigh, recently (2002) closed its British manufacturing operation and switched production to China, where production is taking place under an OEM arrangement.
25 See Czaban and Henderson (2003a), for instance, for the situation in Eastern Europe.
26 To original design manufacturing (ODM) and ideally to original brand manufacturing (OBM).
27 Cases in point seem to be a number of the newly industrialised and industrialising economies of East and South Asia which have experienced significant declines in their terms of trade subsequent to the rise of China as a semi-industrial power. The inability of a number of them (South Korea, Hong Kong, Malaysia and Thailand, for instance) to innovate and move decisively into higher value-added products and processes may mean that they – along with others – are now engaged on a 'race to the bottom'. On the general issues involved here, see Kaplinsky (1999) and Henderson (1999).
28 The only exceptions are minor, special cases such as Hong Kong and Singapore. In earlier centuries, The Netherlands and Switzerland were, in trade terms, open economies but their respective governments used a range of industrial promotion tactics (including the refusal to respect patent rights, thus giving them free access to foreign technologies) to help develop their economies (Chang 2002).
29 Both South Korea and Taiwan operated targeted protection but were polar opposites in terms of oligopolistic market control (see the discussion below).
30 As in the case of fruit exports to the EU from Morocco, South Africa and the Caribbean.
31 The Kuo Min Tang, or Chinese Nationalist Party.
32 See the essays collected in Gereffi and Korzeniewicz (1994) for details.
33 Among a now considerable literature on Chinese industrialization, see Nee and Su (1998).
34 As was the case with Taiwan before, and Malaysia after, the East Asian economic crisis (see Henderson 1999).

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