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Governance in Global Value Chains

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Summary

The concept of 'governance' is central to the global value chain approach. This article explains what it means and why it matters for development research and policy. The concept is used to refer to the inter-firm relationships and institutional mechanisms through which non-market coordination of activities in the chain takes place. This coordination is achieved through the setting and enforcement of product and process parameters to be met by actors in the chain. In global value chains in which developing country producers typically operate, buyers play an important role in setting and enforcing these parameters. They set these parameters because of the (perceived) risk of producer failure. Product and process parameters are also set by government agencies and international organisations concerned with quality standards or labour and environmental standards. To the extent that external parameter setting and enforcement develop and gain credibility, the need for governance by buyers within the chain will decline.

Article

1 Introduction*

If trade liberalisation is to bring benefits to developing countries, then these countries must be able to export products for which they have a comparative advantage to developed country markets. Analysis of trade in labour-intensive products such as clothes, shoes and high-value, fresh vegetables has highlighted important features of the way in which this trade is organised. Increasingly, trade in these products is organised by global buyers, who may work for, or act on behalf of, major retailers or brand-name companies. This has been shown to be the case in, for example, the trade of garments between East Asian countries and the US (Gereffi 1999), the trade in horticultural products between Africa and the UK (Dolan and Humphrey 2000) and the trade in footwear from China and Brazil to the US and Europe (Schmitz and Knorringa 2000). One of the key findings of these and other studies is that access to developed country markets has become increasingly dependent on entering into the global production networks of lead firms situated in developed countries. The fact that these lead firms are just as likely to be retailers or brand-name companies (Tesco, Marks & Spencer, The Gap, Nike) as manufacturers is one of the key insights of global value chain research.

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This leads to a more general insight. It has long been recognised that in situations characterised by bounded rationality in which information is either unavailable or can only be acquired at a cost, organisations as well as markets coordinate economic activities. Organisations emerge because markets:

> depend on a shared knowledge of the prices and the characteristics of the goods that are being traded, the absence of serious third-person effects (so-called 'externalities') that are not reflected in prices, and sufficient stability of products and manufacturing practices so that both sellers and buyers can plan their activities rationally and make rational decisions to sell and buy at the prices at which the markets equilibrate (Simon 2000: 750).

A significant amount of trade in the global economy (although it is difficult to quantify how much) is carried out in the form of transactions between subsidiaries of transnational companies. It is less widely recognised that trade is also organised through networks of legally independent firms using a variety of transactional relationships. Thirty years ago, Richardson (1972: 883) referred to this as 'the dense network of cooperation and affiliation by which firms are inter-related'. Recent research suggests that such relationships can increasingly be found in international trade. Global value chain research in particular seeks to understand the nature of these relationships and their implications for development.

The concept of 'governance' is central to the global value chain approach. We use the term to express that some firms in the chain set and/or enforce the parameters under which others in the chain operate. A chain without governance would just be a string of market relations. Instances of governance are easy to describe. The celebrated UK television programme about Tesco's role in controlling the production of *mangetout* in Zimbabwe would be a clear example of governance in a global value chain. In this case, Tesco was clearly calling the shots, even though it did not own the farms or the packing facilities. In fact, Tesco only takes ownership of the product when it arrives at the regional distribution centres in the UK. But this does not prevent Tesco influencing what happens at earlier points in the chain.

Governance can be exercised in different ways, and different parts of the same chain can be governed in different ways. In a previous paper (Humphrey and Schmitz 2000) we explored why these differences matter for the upgrading prospects of producers in developing countries. This article seeks to deepen our understanding of governance. Section 2 brings together the main reasons why a concern with chain governance matters for development research and policy. Section 3 examines what precisely chain governance is. Section 4 asks why chain governance is needed and why it is a salient feature in trade with developing countries. Section 5 sets out how compliance with product and

process parameters can be ensured. The final Section 6 maps out briefly the likely future trends in chain governance.

2 Why does governance matter?

The issue of governance in value chains is important for the following reasons:

- Market access. Even when developed countries dismantle trade barriers, developing country producers do not automatically gain market access, because the chains which producers feed into are often governed by a limited number of buyers. In order to participate in export manufacturing to North America and Western Europe, developing country producers need access to the lead firms of these chains. These lead firms 'undertake the functional integration and coordination of internationally dispersed activities' (Gereffi 1999: 41). Decisions by the chains' lead firms may lead to particular types of producers and traders losing out. For example, recent research on the UK-Africa horticulture chain suggests that small growers are marginalised. The reason, it seems, does not lie in the efficiency advantage of large growers but in the lead firms' sourcing strategies, which are influenced by the expectations of consumers, NGOs and government agencies with regard to safety and environmental and labour standards (Dolan and Humphrey 2000: 165–9).

- Fast track to acquisition of production capabilities. Those producers that gain access to the chains' lead firms tend to find themselves on a steep learning curve. The lead firms are very demanding with regard to reducing cost, raising quality and increasing speed (and are therefore unpopular with the local workforce). But they also transmit best practices and provide hands-on advice (and pressure!) on how to improve layout, production flows and raise skills. It is this combination of high challenge and high support which is often found in the highly governed chains and which explains how relatively underdeveloped regions become major export producers in a short period of time. The Brazilian shoe industry in the early 1970s and the Vietnamese garment industry in the late 1990s are good examples. There is now broad agreement in the literature that this upgrading effect is particularly significant for local producers new to the global market (Gereffi 1999; Keesing and Lall 1992; Piore and Ruiz Durán 1998). However, there is also recognition that the governance structures which facilitate the fast acquisition of production capabilities can create barriers for the acquisition of design and marketing capabilities (Schmitz and Knorringa 2000).

- Distribution of gains. Understanding the governance of a chain helps to understand the distribution of gains along the chain. Kaplinsky (2000), in particular, suggests that the ability to govern often rests in intangible competences (R&D, design, branding, marketing) which are characterised by high barriers of entry and command high returns – usually reaped by developed country firms. In

contrast, developing country firms tend to be locked into the tangible (production) activities, producing to the parameters set by the 'governors', suffering from low barriers of entry and reaping low returns. While in need of systematic empirical verification, these governance related distribution issues are critical to the debate on whether there is a spreading of the gains from globalisation.

- Leverage points for policy initiatives. Precisely because many global value chains are not just strings of market-based relationships they can both undermine government policy but also offer new leverage points for government initiatives. The fact that some chains are governed by lead firms from developed countries provides leverage for influencing what happens in supplier firms in developing countries. This leverage point has been recognised by government and non-governmental agencies concerned with raising labour and environmental standards. Global chain governance provides, for example, the basis of the UK government's ethical trade initiative. It would not make sense to hold UK companies responsible for labour and environmental conditions at developing country suppliers if these companies did not know who these suppliers were and have influence over these conditions. In fact, it makes sense to refer to some firms as 'suppliers of x' and hold x responsible precisely because x will have worked with the supplier, discussing product design, manufacturing (or growing) processes, quality systems, and can exercise pressure to change them.

- Funnel for technical assistance. Multilateral and bilateral donor agencies have for decades sought to find ways of providing effective technical assistance to developing country producers. Progress was at best modest. Recently these agencies have embarked on experiments of fostering TNC-SME partnership. The central idea is to combine technical assistance with connectivity. The lead firms of chains become the entry point for reaching out to a multitude of distant small and medium sized suppliers. It is recognised, however, that some buyers may require 'mentoring' in order to fulfil this funnel and transmission function. The UN (through the Global Compact), UNCTAD, UNIDO, GTZ, DFID and the Prince of Wales Fund are experimenting with this approach,[i] but more areas of application need to be explored. For example, an analysis of horticultural value chains highlights the critical role played by UK supermarkets and importers in this trade and points to the importance of targeting these buyers when considering initiatives to promote smallholder production of export horticulture crops.

3 What is chain governance?

It is quite easy to point to instances of governance in inter-firm relationships within global value chains. One clear example would be the way in which leading UK supermarkets exercise control over

their fresh vegetable supply chains.[ii] Not only do they specify the type of products they wish to buy (including varieties, processing and packaging), but also processes such as the quality systems that need to be in place. These requirements are enforced through a system of auditing and inspection and, ultimately, through the decision to keep or discard a supplier. Clearly, governance in value chains has something to do with the exercise of control along the chain.

At any point in the chain, the production process (in its widest sense, including quality, logistics design, etc.) is defined by a set of parameters. The four key parameters which define what is to be done are:

1. What is to be produced. We refer to this as product definition.[iii]
2. How it is to be produced. This involves the definition of production processes, which can include elements such as the technology to be used, quality systems, labour standards and environmental standards.
3. When it is to be produced.
4. How much is to be produced.

To these four basic parameters one might add a fifth parameter, price. Although prices are usually treated as a variable determined in the market, it is frequently the case that major customers (particularly those competing more on price than, for example, product quality) insist that their suppliers design products and processes in order to meet a particular target price.

The question of governance arises when some firms in the chain work according to parameters set by others. When this happens, governance structures may be required to transmit information about parameters and enforce compliance. In short, governance refers to the inter-firm relationships and institutional mechanisms through which non-market coordination of activities in the chain is achieved.

Governance, in the sense of arrangements that make possible the non-market coordination of activities,[iv] is not a necessary feature of value chains. Many goods are traded in markets through a series of arm's-length market relationships between firms. The parameters are defined solely by each firm at its point in the chain. So, for example, a firm might make a product according to its own estimations of market demand ('make to forecast'), using a design that has no reference to any particular customer (i.e. either a completely standard product, or a product developed in-house) and using its own processes. The buyer then encounters a ready-made and ready-to-buy product. There are various ways in which inter-firm relationships can differ from this pattern. For example, the decisions about 'when' and 'how much' will be made jointly by the producer and the buyer when production is

scheduled according to 'make-to-order' rather than 'make-to-forecast'. This is typical when products have many possible variants, which renders make-to-forecast uneconomic.

From the point of view of the analysis of inter-firm linkages in the global economy, the critical parameters for value chain governance are the first two: what is to be produced, and how it is to be produced. These parameters are often set by buyers.[v] In each case, the level of detail at which the parameters are specified can vary. In the case of product definition, the buyer can provide different levels of specification. It can set a design problem for the producer, which the producer then solves by providing its technology and design. The buyer might provide a particular design for the producer to work on, or the buyer might even provide detailed drawings for the producer. Buyers can also specify process parameters. This has been most evident through buyer involvement in their suppliers' quality systems, but it is also increasingly evident in specification of process parameters in relation to labour and environmental standards. Once again, these can be specified at different levels of detail. In some cases, the buyer may merely refer to the process standards to be attained. In other cases, the buyer will specify precisely how particular standards should be attained by requiring and perhaps helping to introduce particular production processes, monitoring procedures, etc. When the buyer plays this role, we refer to it as the 'lead firm' in the chain.

The fact that this lead role can be played by a variety of firms leads to Gereffi's distinction between producer-driven and buyer-driven global value chains (Gereffi 1994). In producer-driven chains, the key parameters are set by firms which control key product and process technologies – for example in the car industry. In buyer-driven chains, the key parameters are set by retailers and brand-name firms which focus on design and marketing, not necessarily possessing any production facilities.

Product and process parameters can also be set by agents external to the chain, as has been argued by Kaplinsky (2000: 125). Government agencies and international organisations regulate product design and manufacture, not only with a view to consumer safety, but also in order to create transparent markets (for example, by defining standard weights and sizes or technical norms). Examples of such parameter setting by agents external to the chain include food safety standards, norms with regard to the safety of products such as children's toys, electrical equipment and motor vehicles and control of hazardous substances in a wide range of products. Once again, these norms can refer to the product (are its physical characteristics and design in conformance with requirements?) or to the process (is it being produced in ways which conform to particular standards?). In some cases, process norms are pursued as a means to achieving product standards (for example, hygienic food preparation systems are designed to produced safe food) and in others because of the intrinsic value of particular types of processes (for example, animal welfare requirements). Governments may set standards which are compulsory and have legal force. Standards may also be set by non-legal agreements (code of conduct,

etc.) and by a variety of unofficial agencies, such as NGOs, which pressure for compliance with labour and environmental standards.[vi]

Parameters set from outside the chain lead to chain governance when one agent in the chain either enforces the compliance with parameters of other agents or translates the parameter into a set of requirements which it then monitors and/or enforces. This situation usually arises when agents at one point in the chain might be held responsible for actions by agents (or the consequences of these actions) at other points in the chain. The UK Food Safety Act, for example, places upon food retailers a requirement for 'due diligence' with respect to the manufacture, transport, storage and preparation of food. They can be held liable for not serving food fit for consumption. UK supermarkets have developed systems of traceability and monitoring to meet the due diligence requirement. Similarly, the basis of the campaign against Nike in the USA was the fact that the company is held responsible for labour conditions in the factories of its suppliers.

4 Why is chain governance needed?

If governance in value chains is about setting and/or enforcing parameters along the chain, the question arises of why companies would want to do this. Governance by the buyer is costly, requiring asset-specific investments in relationships with particular suppliers. Such investment also increases the rigidity of supply chains by raising the costs of switching suppliers. Nevertheless, many instances of parameter setting and enforcement along the chain are evident.

Buyer specification of product design is most likely to arise when the buyer has a better understanding of the demands of the market than the supplier. The buyer then interprets the needs of the market and informs the supplier of what is required. As was noted above, this information may range from a statement of the 'design problem' to be met to detailed specifications of what is to be produced. The supplier's limited knowledge of market demands may arise in fast-moving markets characterised by innovation and product differentiation. This can be seen in fashion segments of the garments industry, for example. It is also likely to arise when developing country suppliers are integrated into global value chains and exposed to the demands of more sophisticated markets. As Hobday has argued, the 'latecomer' firm to the global economy is 'dislocated from the mainstream international markets it wishes to supply' (1995: 34). Suppliers may be confronted with markets that have different quality requirements and also different and hard to interpret safety standards. In this situation, the buyer may even have to supply basic information about product design.

The main reason for specification of process parameters along the chain is risk. Buyers specify and enforce parameters when there are potential losses arising from a failure to meet commitments (for

example, delivering the right product on time) or a failure to ensure that the product conforms to the necessary standards. These performance risks, relating to factors such as quality, response time and reliability of delivery, become more important as firms engage in non-price competition. For example, UK supermarkets place great emphasis on continuity and consistency of supply. The conformance risks spring mainly from increasing concerns about product safety, labour standards and environmental standards. These mean that buyers (both retailers and manufacturers) in developed countries are exposed to the risks of loss of reputation if shortcomings are found at their suppliers. Once again, these risks may be a particular characteristic of global value chains integrating developing country producers with developed country buyers. Keesing and Lall (1992) argue that producers in developing countries are expected to meet requirements that frequently do not (yet) apply to their domestic markets. This creates a gap between the capabilities required for the domestic market and those required for the export market. Therefore, parameter setting and enforcement may be required to ensure that products and processes meet the required standards. If the gap has to be closed quickly, buyers will need to invest in a few selected suppliers and help them to upgrade.

The corollary of this is that the need for parameter setting along the chain may decrease as the capabilities of developing country suppliers improve and diffuse. At the initial stages of a supply relationship, buyers may feel the need to provide detailed instructions and undertake close monitoring of supplier performance. As the suppliers become more experienced, and as they are able to demonstrate their reliability to the customer, the latter may begin to indicate the standards to be met, but leave it to the supplier to work out how to meet them.[vii] An important corollary of this point is that the extent to which product and process parameters are set by the buyer does not depend upon the intrinsic characteristics of the product, such as its complexity or its closeness to the technology frontier, but rather derives from the risks faced by the buyer. These arise from the level of probability of poor performance and the consequences of that poor performance.

5 How can firms ensure that parameters are met?

Once parameters have been set by firms in the chain or by agents outside of the chain, how are they enforced? In an earlier paper (Humphrey and Schmitz 2000), we focused on governance relationships between firms in the chain. In this article we stressed the trade-offs between parameter setting and enforcement by firms within the chain as opposed to by external agents.

Compliance with product parameters can usually be monitored and enforced through inspection and testing. This can take place at various stages, including at the design and pre-production stages, depending upon the extent to which the supplier is responsible for the design. In some cases,

government agencies will also inspect products prior to their introduction in the national or regional market.

Monitoring and enforcing compliance with process standards is altogether more complicated. Process standards relate to characteristics of the process itself which may not be evident in the product itself. Reardon *et al.* (2001) use the concept of 'credence good' to refer to product and process qualities not evident at the point of purchase:

> A credence good is a complex, new product with quality and/or safety aspects that cannot be known to consumers through sensory inspection or observation-in-consumption ... The quality and safety characteristics that constitute credence attributes include the following: (1) food safety; (2) healthier, more nutritional foods (low-fat, low-salt, etc.); (3) authenticity; (4) production processes that promote a safe environment and sustainable agriculture; (5) 'fair trade' attributes (e.g., working conditions) (Reardon *et al.* 2001).

By definition, consumers cannot directly verify these attributes. In the cases of attributes 3, 4 and 5, the retailers are not able to verify them through product inspection alone. This is why process controls are necessary.

The following simplified table presents various options for parameter setting and parameter enforcing. Ignoring more complex situations, such as joint parameter setting between firms in external agencies, it highlights the contrast between parameter setting and enforcement by firms in the chain (or by agents specifically contracted to carry out work to the requirements of these firms) and the role of external agents in setting and enforcing compliance with parameters.

There are some reasons to expect that parameters set by lead firms within the chain will be enforced by the lead firms, or by agents contracted by them. Conversely, parameters set by agents external to the chain will also be enforced by agents external to the chain. These are the two situations described in boxes 1 and 4. In the case of box 1, the greater the extent to which the lead firm specifies non-standard parameters, the greater is the likelihood that it will also have to arrange for enforcement, carrying out this activity directly, or contracting others to do it. These 'others' might be other agents within the chain (for example, UK supermarkets requiring their importers to monitor the quality systems of horticultural producers and exporters), or third party specifically hired for the task, as happens when NGOs or independent monitors are hired by companies to verify labour standards at suppliers. The key point here is not whether the firm or an agent does this work, but that the firm defines the parameters to be met and arranges for compliance to be monitored. In contrast, box 4 describes cases where the parameters are specified by agents external to the chain (in the two cases

described, by government agencies) and the monitoring processes are also in the hands of agents external to the chain. In this case, no individual firm in the chain takes responsibility for defining or enforcing the parameters. They apply to all the firms in the chain.

Table 1: Examples of parameter setting and enforcement

		Parameter enforcement	
		Lead firm	**External agents**
Parameter setting	**Lead Firm**	1 Specification of quality systems and enforcement through audit, either directly by the lead firm itself or through an agent acting directly on its instructions. Requirement for labour standards above the legally-required minimum, verified by the lead firm or its agents. Voluntary implementation of fair trade code enforced by the firm.	2 Lead firm requires suppliers to conform to a process standards or code of practice for which an independent monitoring or certification system exists. Examples would include ISO 9000, ISO 14000 and SA 8000 certification.[viii]
	External Agents	3 Firms are expected not to use suppliers that employ child labour, but this expectation is not accompanied by any system for enforcing the ban. The firms have to develop their own enforcement systems. Food sellers are legally obliged to meet hygiene standards for ready-to-eat food in the EU, but the process of ensuring that these conditions are met is the responsibility of firms in the chain. In this case, the seller is responsible for specifying mechanisms that conceal that the standard can be met.	4 The EU requires that surgical instrument manufacturers exporting to the European market must be ISO 9000 certified The certification is carried out by independent certification agencies (Nadvi 2001). The US Department of Agriculture (DoA) requires certain regions exporting melons to the US market to have a State-administered fruit-fly monitoring and eradication programme which has to be approved by the DoA (Gomes 1999).

However, the table also shows that setting and enforcement may be split. Box 2 describes cases where lead firms require the suppliers to adhere to certain general process standards. The decision to insist on a standard is made by the lead firm (it is not imposed from outside), but if the standard is widely known and adopted, then it is likely that organisations (standards agencies, consultancy firms, etc.) exist for both certifying companies and helping, firms meet the specified standard. Box 3 describes cases where the parameters are imposed by external agents (by governments or by NGOs), but the lead firm is responsible for specifying and monitoring the processes which are meant to lead to the required outcome. In these cases, the lead firm has a particular requirement imposed on it, but it has to make the necessary arrangements to ensure compliance along the chain.

We can hypothesise that there is some incentive for firms to shift parameter setting and enforcement from boxes 1 and 3 to boxes 2 and 4. Such a shift would reduce the cost of direct monitoring and shift towards a process of external certification. Generally speaking, the costs of this certification are borne

by the supplier, not the buyer. However, for this process to take place it is necessary for the parameters being specified to be widely applicable across different firms and to have credible means of external monitoring and enforcement. It may be the case that in the early stages of the development of new process parameters, such as labour standards, these are initially enforced by lead firms within the chain. As standards become more generalised, then external systems of enforcement develop, such as the SA 8000 labour standard.

To the extent that such external systems of parameter setting and enforcement develop and gain credibility, then the role of process parameters in generating the need for governance by firms within the chain will decline. If it were the case that certification systems demonstrating adherence to a range of process standards, including quality, environmental and labour standards were developed, this might substitute for process controls by lead firms. Direct monitoring and control of suppliers could be substituted by certification processes. Nevertheless, there are reasons to believe that direct parameter setting and enforcement by lead firms will continue to be important in value chains. Firstly, firms might still wish to specify product parameters. Secondly, it is not clear how effective standards and certification are. Widely applicable process parameters may not be a guarantee of good performance in areas such as quality. Close links with suppliers may remain indispensable. Thirdly, they may be other areas of supplier behaviour, such as reliability of delivery and willingness to develop long-term partnerships that are not captured by certification schemes.

6 What are the likely trends in chain governance?

The purpose of this final section is to reflect on whether chain governance will become more or less dominant in trade with developing countries and what form it will take. What are the implications of the analysis presented in this article for trends in value chain governance?

- The general increase in chain governance is connected to the big changes in retailing in the advanced countries. There has been an enormous *concentration in retailing*, particularly pronounced in the US and UK, but also evident in Germany, France, and more recently in countries with traditionally very diffuse retail sectors such as Italy and Japan. Concentration in retailing does not necessarily lead to concentration in sourcing but the scenario which is emerging is increasingly clear: an increasing number of developing country producers engage in contract manufacturing for a decreasing number of global buyers.

- *Brands* play an increasingly important role in enterprise strategy, particularly in consumer products such as garments and footwear. The enormous investment required to create (or maintain) brands is increasingly made by retailers or other companies which have no (or only

limited) production facilities of their own. Product and process definition, however, is a strategic part of their operation. To the extent that luxury segments of markets for products such as clothes and shoes become increasingly dominated by global brands, the companies holding these brands will play an increasing role in structuring global value chains. This tendency is already evident in parts of the Italian footwear industry (Rabellotti 2001).[ix] Because brands stand for high quality or well-defined images, they need to define and enforce product and process parameters. Branding and chain governance thus tend to go together. Chain governance is not however limited to the sourcing of branded products.

- In this article we have reiterated our previous argument (Humphrey and Schmitz 2000) that the *risk of supplier failure* is a key driver of chain governance. Will this risk diminish with time? The risk of suppliers not being able to produce to the required specification is highest in new producer countries. Over the last two decades, many new producer countries have been able to export to advanced country markets under the tutelage of the global buyers. As the competence of these suppliers increases, chain governance through the buyers can be expected to loosen – provided that the increasing competence of suppliers is accompanied by the emergence of local agents who can monitor and enforce the compliance with general or buyer specific standards. Some of the formerly new producers will become world leaders in *producing* promptly to the specification of the foreign buyer. To some extent this is already happening as in the Taiwanese computer cluster (Kishimoto 2001) and the South Brazilian footwear cluster (Bazan and Navas-Aleman 2001), both of which are loosening the ties with the foreign buyers.

- There is however a counter-tendency. While non-price factors (quality, brand, speed) have come to play an increasing role for competing in global markets, price competition continues to be unrelenting, leading to a downward pressure on prices, particularly in labour intensive products sourced from developing countries. The resulting profit squeeze leads buyers to *scout continuously for new producers* who offer lower labour costs. This then raises again the risk of supplier failure and the need for chain governance. While this process has probably bottomed out in traditional products such as garments and shoes, the cycle continues to be reproduced for newer products such as computer monitors or all-year-round available fruits and vegetables.

- *Business-to-Business (B2B) electronic commerce* is being promoted world-wide as a means of enabling developing country producers to sell in advanced country markets and transform the relationship between producer and buyer. For the producer, one of the main advantages of e-commerce is thought to lie in side stepping the intermediary or avoiding control by the buyer. Reality is unlikely to become this simple and the governance mechanisms outlined in Table 1 will probably continue to be most relevant because: (a) B2B e-commerce is diffusing only very slowly

in trade between developing and developed countries; (b) some of the established buyers are investing in the application of e-procurement methods; (c) where existing intermediaries are circumvented, trade tends to be conducted through new 'info-mediaries' (portals); (d) all forms of e-procurement are likely to require mechanisms to contain buyer risk, such a certification. Monitoring and accreditation agencies will be of increasing importance (Mansell 2001).

- As argued in Section 5, there may be a shift to parameter setting and enforcement *by agents outside the cha*in. The more conformance/compliance with parameters can be codified, generalised and credibly applied, the less need there is for governance from within the chain.

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i See, for example, UNCTAD (2000), UNIDO (2000), and the following websites: www.unglobalcompact.org; www.dfid.gov.uk; www.gtz.de/ppp.

ii These issues are discussed in Dolan and Humphrey (2000).

iii This term is taken from Sturgeon (2000).

iv By restricting the term 'governance' to non-market coordination of economic activities, we are distinguishing between 'market coordination' and 'coordination through governance mechanisms'. In this respect, we do not follow the practice of Williamson (1979: 247) who sees governance structures, including market governance, as characteristic of all transaction arrangements.

v In many cases, parameter setting goes 'backwards' along the chain, from buyer to seller, but this is by no means always the case. Buyer and seller may set parameters jointly if they each have competences relevant to the parameters being set. In a few cases, parameter setting goes 'forwards' from seller to buyer - franchise operations are the clearest example of this.

vi The issue of governance through product and process standards has become increasingly complex, partly due to the proliferation of such standards. For an overview, see Nadvi and Wältring (2001).

vii The analysis by Lee and Chen (2000) of the acquisition of competences by Taiwanese contract electrical assemblers illustrates how these firms moved from assembling printed circuit boards to the specifications of their customers, using component supplied by these customers, to sourcing components, adapting designs and developing testing equipment. The key factor in the parameter-setting relationship was not the product (if anything, it became more complicated) but the competence of the suppliers in relation to the demands placed upon them. Note, however, that the overall design parameters of the product remains in the hands of the customer, as the printed circuit board's requirements depend upon the product into which it is inserted. However, because part of the answer to the design challenge is provided by the supplier, the nature of their relationship changes.

viii For a discussion of ISO 9000 certification, and also some of the possible shortcomings of the certification processes in the surgical instrument trade, see Nadvi (2001).

ix This and other articles from the same workshop on local clusters in global value chains can be downloaded from the research programme's website: www.ids.ac.uk/ids/global/vw.html.

References

Bazan, L. and Navas-Aleman, L. (2001) 'The Underground Revolution in the Sinos Valley – A Comparison of Global and National Value Chains', paper presented at Workshop on Local Upgrading in Global Chains, Brighton, Institute of Development Studies: February

Dolan, C. and Humphrey, J. (2000) 'Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry', *Journal of Development Studies* 37.2: 147–76

Gereffi, G. (1999) 'International Trade and Industrial Upgrading in the Apparel Commodity Chain', *Journal of International Economics* 48: 37–70

Gereffi, G. (1994) 'The Organisation of Buyer-driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks', in G. Gereffi and M. Korzeniewicz (eds), *Commodity Chains and Global Capitalism*, Westport: Praeger: 95–122

Gomes, R. (1999) 'Unexpected Growth and Unintended Spillovers: The Making of the Melon Industry in Mossoró-Assú, Northeast Brazil', mimeo, Boston, MA: Department of Urban Studies and Planning, Massachusetts Institute of Technology

Hobday, M. (1995) *Innovation in East Asia: The Challenge to Japan,* Cheltenham: Edward Elgar

Humphrey, J. and Schmitz, H. (2000) *Governance and Upgrading: Linking Industrial Cluster and Global Value Chain Research*, IDS Working Paper 120, Brighton: IDS

Kaplinsky, R. (2000) 'Globalisation and Unequalisation: What can be Learned From Value Chain Analysis?', *Journal of Development Studies* 37.2: 117–46

Keesing, D. and Lall, S. (1992) 'Marketing Manufactured Exports From Developing Countries: Learning Sequences and Public Support', in G. Helleiner (ed.), *Trade Policy, Industrialisation and Development,* Oxford: Oxford University Press: 176–93

Kishimoto, C. (2001) 'The Taiwanese Personal Computer and Cluster: Trajectory of its Production and Knowledge System', DPhil thesis, Institute of Development Studies, University of Susssex

Lee, J.-R. and Chen, J.-S. (2000) 'Dynamic Synergy Creation With Multiple Business Activities: Toward a Competence-based Growth Model for Contract Manufacturers', in R. Sanchez and A. Heene (eds), *Research in Competence-Based Research,* Tucson, AZ: JAI Press

Mansell, R. (2001) *Issues Paper*, Dubai: OECD Emerging Market Economy Forum on Electronic Commerce, available from www.gapresearch.org/programme/profile-11.html (accessed 2001)

Nadvi, K. (2001) 'Global Standards and Local Responses', paper presented at Workshop on Local Upgrading in Global Chains, Brighton, Institute of Development Studies: February

Nadvi, K. and Wältring, F. (2001) 'Global Standards: Implications for Local and Global Governance', paper presented at Workshop on Local Upgrading in Global Chains, Brighton, Institute of Development Studies: February

Piore, M. and Ruiz Durán, C. (1998) 'Industrial Development as a Learning Process: Mexican Manufacturing and the Opening to Trade', in M. Kagami, J. Humphrey and M. Piore (eds), *Learning, Liberalisation and Economic Adjustment,* Tokyo: Institute of Developing Economies: 191–241

Rabellotti, R. (2001) 'The Eroding Effect of Globalisation on an Italian Industrial District: The Case of Brenta', paper presented at Workshop on Local Upgrading in Global Chains, Brighton, Institute of Development Studies: February

Reardon, T., Codron, J.-M., Busch, L., Bingen, J. and Harris, C. (2001) 'Global Change in Agrifood Grades and Standards: Agribusiness Strategic Responses in Developing Countries', *International Food and Agribusiness Management Review* 2.3

Richardson, G.B. (1972) 'The Organisation of Industry', *The Economic Journal* 82: 883–96

Schmitz, H. and Knorringa, P. (2000) 'Learning from Global Buyers', *Journal of Development Studies* 37.2: 177–205

Simon, H. (2000) 'Public Administration in Today's World of Organisations and Markets', *Political Science and Politics* 33.4: 749–56

Sturgeon, T. (2000) *Turn-Key Production Networks: A New American Model of Industrial Organization?*, Cambridge, MA: Industrial Performance Center, MIT

UNCTAD (2000) *Enhancing the Competitiveness of SMEs Through Linkages*, TD/B/Com.3/EM.11/2, Geneva: UNCTAD, Commission on Enterprise, Business Facilitation, and Development

UNIDO (2000) 'Major Issues for the Preparation of UNIDO Guidelines for Partnership with Private Business', mimeo, Vienna: UNIDO, Private Sector Development Branch

Williamson, O. (1979) 'Transaction-cost Economics: The Governance of Contractual Relations', *Journal of Law and Economics* 22: 233–61