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- Preparatory Note -
Characterising Governance in Value Chain Analysis

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This note builds on Humphrey and Schmitz's (2000) background paper to develop a number of propositions regarding the characterisation of governance in value chain analysis. Gereffi (1994, p. 97) defines chain governance as "authority and power relationships that determine how financial, material, and human resources are allocated and flow within the chain". Humphrey and Schmitz (2000, p. 2-3) stress that governance involves the co-ordination of economic activities through inter-firm and intra-firm relationships, and draw on transaction-cost theory to identify various modes of governance or co-ordinating mechanisms. They distinguish between:

- arm's-length market relations
- network relations based on co-operation between "equals"
- quasi-hierarchy, combining co-operation with asymmetrical power relationships
- and hierarchy, associated with vertical integration.

Such typology provides a basis for characterising the organisational architecture of value chains that can be further developed in a number of directions:

- to differentiate power relations and co-ordination mechanisms in the definition of chain governance,
- to distinguish co-ordination mechanisms from their application within and between firms,
- to assess the determinants of governance modes, or the foundations of power relations and co-ordination mechanisms within global value chains.

- *Power and co-ordination within value chains*

To differentiate the dimensions of power and co-ordination within our approach of chain governance will allow us to distinguish the drawbacks or advantages associated with a given power configuration from the co-ordinating mechanisms involved in the relationship. For instance, the distinction made by Humphrey and Schmitz (2000) between network and quasi-hierarchy shows that a similar co-ordinating mechanism, i.e., co-operation through trust and long-term relations, can be used within the context of different power relations. Accordingly, it is not trust per se, but its development in a given power configuration, that generates situations of economic dependency vis-à-vis lead firms within the chain.

In order to account more systematically for the diverse forms of power relations developed within global value chains, the definition of governance could thus incorporate not only the co-ordination of economic activities, but also the allocation of resources or distribution of gains within the chain. Put differently, *chain governance can be defined as (i) the co-ordination of value-creating activities, or how resources are used within the chain, and (ii) the distribution of value created, or*

how resources are allocated within the chain. Such a definition integrates Humphrey and Schmitz's (2000) emphasis on co-ordination within a broader view of governance as conveyed by Gereffi's (1994) definition.

The two dimensions of power and co-ordination are closely intertwined in chain governance, as control over value creation processes presumably increases a firm's capacity to appropriate or retain value. Likewise, firms that are in a position to appropriate the value created within the chain might be better equipped to co-ordinate value-creating activities. However, to isolate the dimension of power can be of particular relevance when studying value chains within a development perspective, as it puts emphasis on local firms' capacity to extract rents out of their participation in global value chains, whereas the dimension of co-ordination sheds lights on the capabilities needed for meeting competitive requirements within the chain. In such perspective, "successful" integration within global chains, or industrial upgrading, involves not only increasing value creation through the sophistication of locally performed activities and outward linkages, but also appropriating greater value at the local level through higher profits and/or higher wages.

- *A matrix of governance modes*

In line with such definition, a 2 * 2 table can be proposed that categorises various modes of governance along the two dimensions of power and co-ordination:

Table 1: Modes of governance within global value chains

Co-ordinating mechanisms	Asymmetrical power	Symmetrical power
Market	Peripheral suppliers (I) Peripheral workers	Market (III)
Trust	Quasi-hierarchy (II) Core workers	Networks (III)
Rules	Codified subcontracting Bureaucracy	Trade regulation

Table 1 uses a typology of co-ordinating mechanism based on Macneil's (1980) distinction between classical contracts (market), neo-classical contracts (rules) and relational contracting (trust), that provided the foundation for Williamson's (1979, 1985) approach to the governance of contractual relations. Why propose yet another typology? Mainly because it allows to distinguish key co-ordinating mechanisms independently of their application within or between firms. For instance, trust can be used both within firms - with core employees - or between trading partners. Likewise, the market might apply not only to inter-firm relations, but also to intra-firm, employment relations through the use of contract workers. Finally, rules might govern transactions within firms, through collective bargaining and labour laws, or between firms, as illustrated by government regulations on sub-contracting in Japan (Sako, 1992).

Such conceptualisation of co-ordinating mechanisms can be useful to study of global value chains that are alternatively organised on the basis of intra-firm or inter-firm networks. *Ownership* remains a critical variable in studying value chains, both because it indicates firms' strategic choices to retain direct control over specific

resources, and because it can be instrumental in local industrial upgrading processes. Within the context of blurring firms' boundaries, however, ownership cannot be conceptually equated with a particular co-ordinating mechanism. For instance, an abundant literature on organisational restructuring has shown that traditional bureaucracies relied heavily on rules to control internal work organisation, but that the growing need for organisational flexibility has stimulated firms to adopt a mix of trust and market mechanisms for co-ordinating transactions, both within and between firms (see Palpacuer, 1998, for review).

The following two points will discuss the determinants of power relations and choice between co-ordinating mechanisms. Such discussion remains incomplete, in particular because it does not systematically address the six governance modes identified in the table, but it can provide a basis for further elaboration during the workshop.

- *Symmetrical and asymmetrical power relations*

Table 1 integrates the various governance modes identified by Humphrey and Schmitz, showing how they are positioned in relation to power relations and co-ordination. A key question arises from this typology: under which condition is trust associated with symmetrical versus asymmetrical power relations? More generally, what determines the configuration of power relations within global value chains? A few propositions can be made regarding this issue by comparing various cases of production relationships in the electronics and apparel industries.

Sturgeon (2000) shows that turnkey producers in electronics have developed symmetrical power relations with their large clients, whereas core suppliers in, say, the New York garment industry, remain highly dependent on their main clients, thus extracting limited financial gains from their trading relationships (Palpacuer, 1996). On what basis did turnkey producers gain higher bargaining power than their garment counterparts? It can be proposed that two characteristics of the transaction contribute to define the bargaining power of a supplier:

- *transactional dependency* vis-à-vis core clients, measured through exchange concentration,
- *competence dependency*, or the extent to which competencies developed by suppliers can constitute *entry barriers* into their segment of activity.

To differentiate the existence of trust from the degree of exchange concentration in characterising governance modes departs from the widely-accepted approach of Mari Sako (1992), that defines obligational contracting relations (OCR) as involving both trust and transactional dependency. However, the study of subcontracting relationships in the New York garment industry shows that some peripheral suppliers exhibit high levels of transactional dependency while working with clients on the basis of market relations. These suppliers are not trusted due to their limited capabilities, and remain in a peripheral position within their clients' production networks. Conversely, some suppliers involved in trust relationships have succeeded

in diversifying their market base, thus reducing their dependency vis-à-vis core clients and reaching a dominant position among local suppliers (Palpacuer, 1996)¹.

Dominant New York suppliers can thus be considered to be *less* dependent than peripheral suppliers are from the perspective of exchange concentration. They have also succeeded in developing a broader range of services beyond simple assembly, such as grading, marking and pattern making, allowing them to add value to their activity. However, strong price pressures still undermine profitability within the contracting segment of the garment industry, so that suppliers cannot be considered to be involved in "equal" relationships with their clients, especially when compared with turnkey producers in the electronics industry.

What accounts for such differences in power relationships? Both types of suppliers have developed trust-based relations with important clients. Indeed, Sturgeon (forthcoming) indicates that turnkey producers do engage in co-operative relations with clients at the early stage of product development, by providing prototype development and design-for-manufacturability services in order to jointly define the details of product design. The product is then transferred to turnkey producers' global network of plants for high volume production that involves little interactions with clients.

Turnkey producers might thus have developed a diverse array of competencies, some of which involve close interactions with clients within the chain, such as design-for-manufacture, while others are sustained in an independent fashion, such as automated high volume production. Accordingly, although they are involved in trust-based relations for part of their activities, and these relationships might be critical to their overall development, their economic position is not characterised by strong dependency vis-à-vis lead firms.

By contrast, New York garment suppliers have acquired the ability to manufacture quality products through close co-operative relations with large clients, involving technical assistance for the transmission and monitoring of quality standards, or what Humphrey and Schmitz (2000) refer to as 'quasi-hierarchy'. In addition, their core production capabilities are associated with moderately complex skills and limited economies of scale, so that entry remains relatively easy in this segment of the garment industry. Industry-specific technological characteristics, such as the labour-intensive nature of production, limit core suppliers' ability to develop significant counter-power vis-à-vis lead firms².

To assess the strength of core competencies developed by suppliers thus involves to shift our focus of analysis from individual inter-firm relations to the broader structure

¹ Among a sample of 21 local suppliers, 10 are identified as "core" based on the criteria of size, trends in sales and profits, product and functional diversification, technological and human resources, and 11 belong to other categories including "peripheral", "intermediate", and "traditional". It can be observed that the main client accounts for more than 50% of sales for 10 out of 11 non-core suppliers, versus 3 out of 7 core suppliers. The link between exchange concentration and trust is not significant as "intermediate" and "traditional" suppliers do develop trust-based relations with core clients together with high levels of transactional dependency.

² It is also possible that core New York garment suppliers exhibit higher levels of transactional dependency than turnkey producers do vis-à-vis their main clients.

of the value chain within which such relations are developed, in order to identify the specific niches, or nodes, associated with competencies that create entry barriers for competing firms and increase bargaining power vis-à-vis client firms. According to classic industrial organisation principles, entry barriers are necessary for firms to be able to extract value out of their participation into value chains, so that in a static perspective, access to profitable positions is restricted within the chain. However, in a dynamic perspective, the example of turnkey producers shows that firms can create new sources of profitability through innovation, allowing for the emergence of new niches positions through higher-level industrial upgrading.

To sum up, the distinction between transactional and competence dependency can provide a first step towards characterising power relations in value chains from an economic perspective. It can be related to Hobbay's (1995) identification of two disadvantages faced by 'latecomer' firms within the world economy: lack of access to mainstream international markets, or the ability to diversify their customer base, and lack of access to international sources of technology, or the ability to develop strong competencies. It is likely that the stronger the firm's competence base, the higher its ability to diversify its clientele. However, firms with weak competencies might also serve a variety of customers, and find themselves in poorly profitable positions within global value chains.

- *Market, trust and rules: the choice between co-ordinating mechanisms*

If power relations are primarily related to transactional and competence dependency, what accounts for the adoption of market, trust, or rules as primary mechanisms for organising inter-firm and intra-firm activities? Two determinants of such choice are here identified:

- *product specificity*, or the extent to which the transaction involves non-marketable investments serving the unique needs of a client,
- *the social and institutional context* of the transaction, that provides the basis upon which trust and rules can be developed to co-ordinate economic exchanges.

Humphrey and Schmitz (2000) consider the role of *product complexity* in explaining the choice between co-ordinating mechanisms, showing that both simple and complex production might be co-ordinated through market or co-operative linkages. However, other product characteristics might play a role in the selection of co-ordination forms. In particular, the choice between market and trust might depend on the degree of *product specificity*, associated with the idiosyncratic, or nonmarketable, nature of investments required by the transaction.

Asset specificity appears as a central determinant of choice among co-ordinating modes in transaction cost theory (Williamson, 1979, 1985): when transactions involve idiosyncratic investments, exchange standards cannot be defined *ex ante* and are progressively established through informal interactions between the parties, so that only relational contracting, or trust, can be used to co-ordinate the relationship. From the perspective of industrial organisation, Richardson (1972) does not explicitly refer to the concept of product or asset specificity, but considers that co-operation is needed when product characteristics and production volumes are to be jointly defined by transacting parties. By contrast, when clients can specify *ex ante* the expected outcome of the transaction, so that products present some degree of standardisation,

market links can be used to co-ordinate the relationship. This might be the case when product standards are defined at industry- rather than firm-level, as illustrated by the existence of half-channel systems for fresh fruit exports from Brazil and Côte d'Ivoire (discussed by Humphrey and Schmitz, 2000, pp. 16-17). Complexity and specificity can thus be considered as two independent dimensions of economic exchange. For instance, turnkey producers might draw on complex internal competencies to develop new standard products available through market relations, while relatively simple, but client-specific products might require close co-ordination with suppliers.

The choice between co-ordinating mechanisms might depend not only on product specificity, but also on the characteristics of the broader social and institutional context within which transactions are embedded. In particular, trust relations involves the existence of *shared norms and values* among contracting parties. According to Zucker (1986), trust can be alternatively produced by (i) joint investment in the relationship (process-based trust), (ii) membership of a given social, familial or ethnic community, (characteristic-based trust), or (iii) formal social structures (institutional-based trust). Leaving momentarily aside the case of institutionally based trust, let's consider how process-based and characteristic-based trust might interact to produce co-operative relations within global value chains.

Process-based trust might explain how firms belonging to highly different societies and value systems, such as American or European retailers on the one hand, and Asian or African producers on the other hand, can learn to co-operate by progressively defining and internalising common norms and values regarding their relationships. Presumably, the norms guiding such relationships are different from those developed in each local industry, yet build on each of these in order to produce trust relations.

Characteristic-based trust might help us to understand why local firms rarely integrate global value chains in an isolated fashion. Indeed, global value chains are typically organised through connections between various *locations*, or groups of spatially-concentrated firms, such as lead garment firms in New York or Los Angeles, and their suppliers in Hong Kong or Mexico. This implies that some locations develop social norms and values that are conducive to the development of trust relations with other locations. Put differently, process-based trust is likely to develop between firms belonging to different local communities when these communities are characterised by 'compatible' norms and values.

Institutionally based trust refers to the existence of formal rules codifying inter-firm or intra-firm relationships within value chains. It corresponds to neo-classical contract forms in transaction cost theory, or bureaucratic forms in organisation theory (Ouchi, 1980; Perrow, 1986). From an organisational perspective, rules are efficient in conditions of environmental stability, when productive activities can be easily predicted and organised through formal arrangements (Perrow, 1986). In a context of high environmental uncertainty, however, firms attempt to free themselves from rigid rules in order to develop greater organisational flexibility, thus contributing to the current decline of bureaucratic forms of organisation.

Formal rules present the distinct characteristics of explicitly binding firms to a given code of behaviour, thus protecting transacting parties against arbitrary, one-sided

decisions, and isolating them from short-term market pressures. Norms and values also have a binding character, but their informal nature provides much greater room for competitive pressures. For instance, core suppliers in the garment industry, or core workers in flexible organisations, are competing against peripheral suppliers and workers despite the fact that they possess distinctive competencies. Rules can thus attenuate asymmetrical power relations by protecting employees or suppliers vis-à-vis their employers or clients, or help preserve equal relations between contracting firms. From a local perspective, they might play an instrumental role in helping locations to use participation in global value chains as a lever for sustainable development. For instance, the ILO (1998) stresses that the successful integration of Singapore within the global electronics industry was realised on the basis of a proactive industrial strategy, combined with strong regulations regarding environmental and labour conditions.

The case of Singapore highlights that the existence of rules as co-ordinating mechanisms for intra-firm and inter-firm relations does not strictly depend on firms' economic rationale, but involves the participation of other actors such as workers and governments in the governance of value chains. Rules can thus contribute to shape power relations, and result from the social consensus upon which an industrial upgrading strategy is established at the local level.

To sum up, each of the mechanisms considered above presents distinctive advantages for co-ordinating transactions: trust allows suppliers to engage in a learning process through the joint specification of product characteristics, markets provide flexibility in mobilising a variety of resources or reaching a broad range of clients, and rules can bring stability and equity to contracting relationships. At the local level, the choice among these mechanisms will vary according to both the nature of the competitive advantage to be developed within global value chains, and the social and institutional context within which global linkages will be established and sustained. Trust relations are needed if firms are to differentiate their services according to the specific needs of buyers, while market relations can be used for the sale of standard products. Social norms and values will provide the basis upon which trust relations and rules can, or cannot, be established for co-ordinating global transactions.

Coming back to Table 1, interactions between the dimensions of power and co-ordination can be illustrated through the definition of an industrial upgrading path for suppliers, that can evolve from peripheral positions (I) to core positions (II) by developing trust relations and learning from global buyers, then reinforce their core competencies independently from buyers' relations and enlarge their market base through a mix of trust and market relations (III). Such trajectory requires what Humphrey and Schmitz (2000) refer to as 'strategic intent' at the local level, and is contingent on opportunities provided by particular chain configurations. It might not be conducive to local development, however, if a set of rules does not temper competitive pressures within the value chain, allowing for the retention and redistribution of value created at the local level.

This note will end with a reference to the broader issue of defining value chains. It can be argued that such definition will primarily depend on our underlying vision of the role played by various types of actors in chain governance, and the expected outcome of global value chain studies vis-à-vis such actors. A broad approach of

value chains through cross-industry input-output data analysis will provide relevant information for guiding governments' macro-economic policies, but generate little guidance for local firms' industrial upgrading strategies. Conversely, an approach centred on firms' competitive strategies does not necessarily take into account the role of workers, governments, and other local actors in supporting or contributing to the creation and appropriation of value. Along the same line, research aimed at supporting lead firms' strategies might emphasise global versus local dynamics, whereas a focus on interactions between global and local dynamics will be required to provide guidance for local industrial upgrading.

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