

# A 'new' approach to global value chain analysis

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Jodie Keane

**Working Paper 293**  
Results of ODI research presented  
in preliminary form for discussion  
and critical comment

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**A 'New' Approach to Global  
Value Chain Analysis**

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August 2008

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ISBN 978 0 85003 880 4

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## List of Acronyms

GlobalGAP	Good Agricultural Practices standard
GVC	Global Value Chain
R&D	Research and Development
UK	United Kingdom

## **Abstract**

This paper uses new trade/new growth theories to better contextualise Global Value Chain (GVC) analysis of 'traditional' and 'non-traditional' agricultural trade. Research suggests that GVC governance structures may limit or enhance the applicability of new trade/new growth theories in terms of 'learning by doing'; and therefore the ability to value chain upgrade. This paper tries to bridge the current divergence between input:output and value distribution approaches to GVC analysis. The case is made that both aspects are central to understanding upgrading processes within agricultural GVCs and growth through trade.

# 1. Introduction

If we consider GVCs to be the mechanisms through which developing countries engage in trade with developed then we can better understand the mechanisms through which value addition occurs both at and across nodes of production.<sup>1</sup> Comparative analysis of ‘traditional’ and ‘non-traditional’ agricultural exports highlights important considerations, structural changes and trends in the way agricultural trade takes place. However, current approaches to GVC analysis aren’t necessarily giving us the full picture.

This paper suggests a ‘new’ approach to GVC analysis of agricultural exports. Firstly through a discussion of comparable studies of traditional and non-traditional agricultural GVCs and their methodological shortcomings; secondly by introducing a series of new trade/new growth models and links these to GVC analysis; and lastly through a discussion of upgrading typologies and trade in agricultural goods within a new trade/new growth context.

In sum, this paper suggests ways in which a more coherent story and lucid analytical framework may help to bridge the current divergence between ‘input:output’ and ‘value distribution’ approaches to GVC analysis. However, this paper also serves to draw attention to how much further GVC research needs to go in order to better understand growth through trade and GVC participation and suggests avenues for further research.

## 2. The GVC approach

Gereffi (1994) originally identified four key dimensions of Global Commodity Chains: input-output structure; geographical coverage; form of governance; and institutional framework. However, he gave no indication as how to measure dimensions, nor the potential benefits of participating in one chain as opposed to another. Since then the Global Commodity Chain (GCC) approach has become better known as Global Value Chain (GVC) analysis. The problem with the phrase Global Commodity Chain (GCC) is that the concept of a commodity does not refer to the product itself but the markets in which it is produced and sold (Kaplinsky, 1998). Thus the same product may be a commodity in some cases, but not in others.

GVC analysis describes the full range of activities required to bring a product or service from conception through the intermediate phases of production to delivery to consumers and final disposal after use (Kaplinsky, 2000). This implies that the GVC approach is all about value creation and management. As will be argued later, integrating aspects of new trade/new growth theories within GVC analysis gives us a better insight into what products countries import and export; what rewards accrue to whom; similarly how and why lead firms go about setting up and maintaining production and trade networks.

### 2.1 Comparative GVC analysis

This working paper draws on existing GVC studies undertaken for coffee (Uganda) and horticulture (Kenya). The approach was to take existing GVC material and synthesise it in order to investigate new trade/new growth aspects. Although applying the new trade/new growth perspective to GVC trade could be considered new or different, the adopted GVC framework is not. However, taking a different perspective suggests some ideas for taking forward a ‘new’ approach to GVC analysis.

Existing studies on the Ugandan coffee value chain were used as a proxy for a ‘traditional’ agricultural good. A similar approach was taken for the Kenyan horticulture value chain, which is considered to be a ‘non-traditional’ agricultural good, or high value export. In sum, one of the main findings in

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<sup>1</sup> Engagement being the means through which new goods and ideas are disseminated.

undertaking preliminary research is that of a lack of comparable GVC studies. Most approaches to GVC analysis remain disjointed: focusing either on value distribution, or firm level ‘input:output’ analysis, but not both.

### 2.1.1 Value distribution approaches

Often shares of retail value-added, or final retail-price are used as proxies for the division of value-added or economic surplus.<sup>2</sup> However, this approach overlooks differences in production costs as well as being unpredictable (some retailers add a higher margin). This methodology is referred to as the value distribution approach to GVC analysis.

### 2.1.2 Input:output approaches

Undertaking firm level ‘input:output’ analysis is costly and time consuming, but nevertheless advocated by some.<sup>3</sup> However, the approach assumes firms produce in a vacuum and that a change to the tune of  $x$  will result in an increase of value added of  $y$ . The approach may be relevant if considering firms in isolation and independent of global markets. However, this being the case, it is then not relevant to GVC analysis – which is all about global linkages. This methodology is referred to as the input:output approach to GVC analysis.

## 2.2 Comparable studies

One could say that the two approaches outlined above straddle an intellectual divide. The GVC approach is more concerned with political economy aspects such as power; indeed this is where its roots lie. But, as will be discussed this doesn’t mean the approach isn’t helpful; identifying the value chain driver through analysis of division of the economic surplus is relevant. Although linking within-country value chain analysis to ‘doing business’ indicators is helpful (particularly for policy makers), considering firms as isolated units of production devoid of any context is not; this is particularly poignant if we consider developing country producers seeking to *access* high value non-traditional GVC’s.

In the search for comparable GVC studies of ‘traditional’ and ‘non-traditional’ agricultural exports, the only analogous data available has been the share of final retail price/retail value-added. For example, the Dolan et al. (1999) study of the horticulture GVC in Kenya uses a measure of the share of final retail price<sup>4</sup> which accrues to each node or link. In comparison, Kaplinsky and Fitter (2001a) use retail value added in their study of the coffee GVC<sup>5</sup> which serves as a proxy for all coffee sold in the UK, with the exception of that sold by retailers such as Starbucks.<sup>6</sup>

In the Dolan et al. (1999) study of the horticulture GVC producers and exporters were interviewed within country to determine changes in the structure and nature of production. However, in attributing shares of value-added to nodes of production, the final retail price was taken and worked backwards (top-down) estimating the proportion received by producers based on primary research.

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<sup>2</sup> Economic surplus being ‘excess income’ over and above that which would be earned in efficient market conditions (Khan 2000) – i.e. a ‘mark-up’ over and above marginal costs.

<sup>3</sup> Some authors link value chain analysis to World Bank investment climate surveys (see Amin, 2004). The IFC and FIAS (2007) ‘multi-donor investment climate advisory service’ similarly use value chain analysis as an instrument for ‘moving towards competitiveness’.

<sup>4</sup> Dolan et al. (1999: 12-13) present a breakdown using green beans as a proxy. Although the precise values for these items vary across the growing season, the overall balance of return is illustrated.

<sup>5</sup> The data for Kaplinsky and Fitter’s (2001a) analysis of the coffee chain is taken from Wheeler (1995) and provides a snapshot of the breakdown of final retail price without reference to a particular producing country. This breakdown is therefore used as a proxy or estimate for the Ugandan coffee value chain, which is one of the largest coffee exporters in Sub-Saharan Africa.

<sup>6</sup> Inclusion would completely skew results given that the final retail price is considerable and only a marginal amount of coffee is actually used relative to milk.

The research undertaken by Kaplinsky and Fitter (2001a) is similar to that undertaken by Dolan et al. (1999), the only difference being that retail value-added is used. However the measure of retail value-added used by Kaplinsky and Fitter (2001a) *is* the final retail price.<sup>7</sup> Both measures are therefore comparable and in both studies get divided across nodes of production in an anecdotal way.<sup>8</sup>

The approach of Kaplinsky and Fitter (2001a) is to some extent validated by Ponte (2002) in his case study of structural changes in the Ugandan coffee GVC.<sup>9</sup> Gibbon (2004) also discusses and compares a range of coffee GVC studies, in which the Kaplinsky and Fitter's (2001a) study features. One could therefore argue that the Kaplinsky and Fitter's (2001a) study is indicative of the value distribution of the final retail price across the 'traditional' Ugandan coffee GVC assuming the Ugandan coffee chain to be representative of all coffee sold in the UK.

In both studies downstream branders/retailers receive the highest margins compared to all other actors, which is hardly surprising. Nevertheless, the value distribution measures are the best comparable indicators available. However, although understanding the division of economic surplus and therefore rents across nodes is fundamental to the GVC approach in terms of determining chain 'drivers' – it is not the only point of interest for researchers.

### **2.2.1 Methodological shortcomings**

There are limitations in the measure of retail-value added since it does not tell us anything about relative incomes or profitability as a ratio of labour/capital employed. Even if we were to use 'input:output' analysis, the problem remains: we cannot measure capital without measuring the value of the capital and labour used to produce it, and so on and so forth. We would also need to define capital first.<sup>10</sup> If we assume wages to be equal to marginal product we are assuming perfect markets, which is a notion rather than a reality (Fine, 2003). The assumption of perfect markets is also redundant if taking a new trade perspective which incorporates increasing returns.

### **2.2.2 Is there an alternative?**

Although integrating new trade/new growth theory with GVC analysis may help us better understand the mechanisms through which developing countries engage with developed through trade, there remains a dearth of empirical evidence on the posited knowledge 'spillovers' which result. Empirical evidence on 'externalities' - particularly those which arise from learning and technical change - are in general lacking, with continued debate as to measurement, weighting and estimation procedures.<sup>11</sup>

One innovative approach to analysing knowledge spillovers which may occur nationally and across sectors is suggested by Hildago et al. (2007) who estimates the probability that a country will produce  $x$  given that they produce  $y$ . Although the approach and methodology is innovative it does not bring us closer to understanding: how producers access GVCs; and once they have accessed how do they maximise long-term gains such as knowledge spillovers?

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<sup>7</sup> The data for analysis of the coffee GVC is taken from Wheeler (1995) and is a snapshot of the breakdown of final retail price without reference to a particular producing country.

<sup>8</sup> Excluded is the coffee-house sector which, if included, would eclipse the participation of other links in the chain as the coffee content is often less than 6% (see Kaplinsky and Fitter, 2001a and 2001b).

<sup>9</sup> But not entirely as Ponte (2002) does not accrue shares of value added to nodes, but discusses in more detail the market structures within which nodes are located.

<sup>10</sup> The whole point of calculating a production function is to show how wages (and interest) are determined by technical conditions and the factor ratio (see Robinson, 1953).

<sup>11</sup> There similarly exists continued debate as to the appropriate measurement of technical change and/or productivity growth: the difficulty being the problem of measuring capital (Sen, 1974).

There is a need to better integrate the more ‘micro’ input:output and ‘macro’ value distribution approaches to undertaking GVC analysis. Both are interesting avenues of research and, as will be discussed, are linked. However, current approaches to GVC analysis remain disjointed. The following sub-sections suggest ways in which integrating new trade/new growth aspects into GVC research and analysis may better develop the analytical framework and therefore our understanding of growth through trade and GVC participation.

### **3. New trade and new growth models**

Although there are many ‘new’ trade models the inclusion of technology and knowledge spillovers are the key mechanisms linking international trade and growth (Fine and Deraniyagala, 2001). This research draws on two new trade/new growth models: firstly, Grossman and Helpman (1989); and secondly Young (1991). This section will briefly describe the two models before moving on to extend the theories to traded agricultural goods within GVC’s - indicating why this approach is relevant.

#### **3.1 Product innovation driving growth**

The Grossman and Helpman (1989) model develops processes relating to the production of ‘new’ goods by a more technologically advanced country; with international knowledge spillovers occurring through trade. Grossman and Helpman (1989) formalised the links between trade, innovation and growth, building on models of monopolistic competition<sup>12</sup> deriving positive links between trade and technology when product innovation drives growth.<sup>13</sup> Firms cover the costs of their up front investments by exploiting their market power, that is, innovation usually gives rise to imperfect competition.<sup>14</sup>

#### **3.2 Productive actualisation of ‘given’ technologies**

In contrast, the Young (1991) model explores processes of the productive actualisation of new goods in terms of ‘learning by doing’ in a less technologically advanced economy. Young takes as given the existence of technical processes produced by path breaking R&D (by the more technologically advanced country) and explores the actualisation of productive potential through trade and ‘learning by doing’ in the less technology advanced country.

Knowledge spillovers occur nationally, but in the absence of the introduction of new goods or ideas, national knowledge spillovers and ‘learning by doing’ cannot be sustained. As a result the less technologically advanced country may experience immiserising growth vis-à-vis the more technologically advanced trading partner if trade according to comparative advantage results in the production of goods in which ‘learning by doing’ has been exhausted.<sup>15</sup>

#### **3.3 Immiserising growth**

In both models developing countries are posited to gain from access to knowledge through trade with developed, at least in the short-term. Firstly through importing intermediate and capital goods from abroad (in which knowledge is embodied); secondly, through increased communication and cross-

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<sup>12</sup> Further to monopolistic competition models by Dixit and Stiglitz (1977).

<sup>13</sup> Developed by Grossman and Helpman (1989) in terms of intermediate or final goods.

<sup>14</sup> Similar to Schumpeterian models of innovation and monopolistic competition. Innovation creates a competitive advantage, which lays the foundation for the quest of the next innovation through the creation of temporary rents.

<sup>15</sup> If different goods are taken to have different potentials for human capital growth then the same considerations of comparative advantage that determine which goods get produced where will also dictate each country’s rate of human capital growth (Lucas 1988).

border learning of production methods; and finally through imitating foreign technologies (Flavey et al., 2002). However, if processes of ‘learning by doing’ are not sustained, or if ‘new’ technology is not forthcoming – countries may experience immiserising growth in the medium to long-term vis-à-vis their more technologically advanced trading partner.

Immiserizing growth and declining terms of trade for commodity or agricultural products vis-à-vis manufactured goods have been documented and hypothesised most notably by Prebisch and Singer (1950).<sup>16</sup> More recently declining terms of trade have been interpreted alternatively as a result of technological differences between countries as opposed to within industries (Chang 1994). Kaplinsky (2004) defines immiserising growth as occurring when an increase in economic activity is associated with a fall in real living standards and discusses income terms of trade and the valuation of output as being more relevant to an open economy.<sup>17</sup>

Increased economic activity may be reflected in greater inputs of labour (people, hours), capital, land or any other resource with an opportunity cost. The unit of aggregation depends on the purpose of analysis and thus may be applied at the firm or country level. The fall in living standards may be reflected in lower wages for example, but is less clearly defined. Both Grossman and Helpman (1989) and Young (1991) posit immiserising growth between a more technologically advanced and less technologically advanced economy, unless new products or processes are introduced and/or ‘learning by doing’ is sustained.<sup>18</sup>

The sustenance of ‘learning by doing’ through trade in goods and ideas determines whether or not immiserising growth in a new trade / new growth context occurs. Understanding both international and national knowledge spillovers will be argued in the following sub-section as being at the crux of marrying up ‘input:output’ and ‘value distribution’ approaches to GVC analysis. This requires us to consider GVC governance structures.

## **4. GVC governance structures**

In GVC ‘speak’, governance structures are usually those ‘internal’ to the value chain and refer to the overall form of inter-node linkages which result in systematic efficiency.<sup>19</sup> However, external governance structures include mandatory standards that producers must legally adhere to in order to access markets.

### **4.1 External governance structures**

External governance considerations usually remain outside of the modelling sphere of ‘which GVC takes what shape and why’, but are nonetheless important. The GVC approach considers trade to be

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<sup>16</sup> The hypothesis being that the demand for manufactures is more positively income-elastic than that for primary and agricultural products (although it is important to point out that different measures of the terms of trade may yield alternative results and the hypothesis remains to some extent controversial).

<sup>17</sup> According to Kaplinsky (2004) we are in a world of declining barter terms of trade.

<sup>18</sup> A series of minor technological breakthroughs that are learned from a major technological breakthrough (Young, 1991: 372). Thus the development of new productive technologies perhaps as the result of R&D efforts and their use in the production of new or existing goods initially leads to rapid ‘learning by doing’.

<sup>19</sup> This is as opposed to analysis of the governance structures that exist between different nodes of production, which some authors prefer – but which nonetheless fail to provide a complete account of the activities and actors involved in the ‘the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use’ (Kaplinsky and Morris, 2000: 8).

embedded in, but also to a considerable extent determined by, specific (but changing) institutional structures and organisational aspects of international trade (Raikes et al., 2000).<sup>20</sup>

There is no formal model of the interplay between external governance structures and the form of GVC. However, chain drivers are responsible for setting the parameters under which other actors participate in the GVC. According to Humphrey and Schmitz (2001) there are incentives for lead firms to shift enforcement of certain minimum requirements or standards from internal to external agents. An externally imposed requirement shifts the costs of adherence and necessary certification to the supplier as opposed to the buyer, as shown by Table 1 (Appendix).

## 4.2 Internal governance structures

Gereffi et al. (2005) identify three variables which shape internal GVC governance structures.<sup>21</sup>

1. **Complexity** of information and knowledge transfer required to sustain a particular transaction particularly with respect to product and process specifications;
2. **Codification** of information and knowledge; i.e. can it be codified and transmitted efficiently without transaction specific investment between parties?
3. **Capabilities** of actual and potential suppliers in relation to the requirements of the transaction.

These variables are determined by the technological characteristics of products and processes but also depend on the effectiveness of industry actors and social processes surrounding the development, dissemination and adoption of standards and other codification schemes.<sup>22</sup> All variables determining the shape of the GVC governance structure are related to technology, information (complexity, codification) and the ability of suppliers to learn (capabilities).

Although Gereffi et al. (2005) identify and discuss five (non-exhaustive) types of GVC governance structure, a quasi-hierarchical structure is more characteristic of the horticulture GVC<sup>23</sup> which is characterised by a few lead firms (as opposed to one which would be a monopsony). A market based governance structure is characterised by many buyers and sellers, and is more characteristic of the 'traditional' coffee GVC.

Figures 1 and 2 (Appendix) present the respective 'traditional' and 'non-traditional' coffee and horticulture GVCs based on a review of available case study material. Box 1 gives a brief description of associated governance structures.

### Box 1: Description of applicable governance structures

**Traditional GVC - Market-based governance:** Transactions are easily codified, product specifications are simple and suppliers have the capability to make the product without input from buyers. The complexity of information exchanged is relatively low. Prices are set by sellers. Producers are price takers.

**Non-traditional GVC - Quasi-hierarchy governance:** Lead firms exercise a high degree of control over other firms in the chain, frequently specifying the characteristics of the product to be produced and sometimes specifying the processes to be followed and the control mechanisms to be enforced. This level of control can also arise due to the buyers' perceived risk of losses from suppliers competence failures.

Source: Adapted from Gereffi et al. (2005) and Humphrey and Schmitz (2004).

<sup>20</sup> As does new trade theory - incorporating imperfect competition, increasing returns to scale, learning by doing and informational asymmetries.

<sup>21</sup> Governance structures are analysed in terms of their internal composition as opposed to outward appearance. This investigation discusses both internal and external governance structures.

<sup>22</sup> It is difficult to obtain quantitative indicators as to the complexity and codification of products and process specifications, but easier in obtaining quantitative measures on supplier capabilities in terms of the skill of labour.

<sup>23</sup> See Humphrey and Schmitz (2004).

### 4.3 Why are governance structures important?

Although external governance structures set the scene, internal governance structures go much further. Similarly to Young (1991), the internal governance structures outlined by Gereffi et al. (2005) take as 'given' the existence of new technologies. The form of governance structure required to support transaction specific investments (or not) depends on recipient developing country capacity and capabilities. Following the logic of Grossman and Helpman (1989) – innovation driving product or process development – we need to better understand when more developed countries are incentivised to support transactions as in a quasi-hierarchical governance structure and conversely, when they are more inclined to take a more 'hands off' or arms length approach, as in a market based governance structure.

One could argue that this is typically when the potential for economic 'rent' or temporal abnormal profits exist: economic rent being a measure of market power and the difference between what a factor of production is paid and how much it would need to be paid to remain in its current use.<sup>24</sup> However, this doesn't necessarily mean things are one sided. We also need to understand what incentivises producers in developing countries to invest in supporting transaction specific investments, such as developing supplier capabilities. This is also likely to be related to the potential for economic rent or in order to retain attractiveness and inclusion within a particular GVC.

## 5. GVC governance of traded agricultural goods

An important aspect of international trade theory often overlooked is that traded agricultural goods often constitute intermediate goods. Intra-industry trade in primary commodities has been observed in work on product differentiation and imperfect competition. Research has calculated levels of 30% for this type of intra-industry trade for primary commodities.<sup>25</sup> Both the horticulture and coffee GVCs exhibit increasingly monopolistic tendencies downstream at the processing, branding and retailing nodes.<sup>26</sup> Thus applying the new trade/new growth perspective to traded agricultural goods is relevant.

Agricultural commodities used to be traded on the basis of arms length market relationships.<sup>27</sup> These products were standardized and produced without reference to the needs of particular buyers and with limited information flowing along the chain. Many small producers could be involved and the output of one producer was much the same as the others (Daviron, 2002: 144). In the shift towards competition over quality as opposed to price (differentiated products),<sup>28</sup> the amount of information that passes between agents in GVCs needs to increase. This necessitates a transition in governance structures and linkages between GVC nodes and structural changes in production. This transition creates opportunities for some producers and limitations for others.

This section will firstly discuss the key differences between the governance structures of the 'traditional' coffee and 'non-traditional' horticulture GVCs, before moving on to discussion of structural changes in production, based on case study analysis. The penultimate section discusses in more detail upgrading opportunities in the respective chains.

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<sup>24</sup> See <http://www.economist.com/research/Economics/alphabetical.cfm?LETTER=R#rent>

<sup>25</sup> However, primary commodity trade and its empirical analysis continue to be based on traditional trade theory (Lord 1991).

<sup>26</sup> See Gibbon (2004) for a good overview of the coffee GVC; similarly Humphreys (2003) for horticulture.

<sup>27</sup> See Gibbon (2001).

<sup>28</sup> And arguably increased competition over natural resources generally.

## 5.1 Non-traditional vs. traditional GVC's

The terms 'traditional' and 'non-traditional' refer to the length of time that trade has been occurring for such goods and the markets in which the goods are produced and consumed. No standard definition exists of what a 'non-traditional' agricultural good actually is but most interpret it as meaning 'high value' and 'new' to the country of origin, and exported. Box 2 below presents some of the key differences relating to the structure of production and relationships between nodes and the form of governance structures that distinguish 'non-traditional' from 'traditional' traded agricultural goods.

### Box 1: Key characteristics of non-traditional and traditional GVC's

Non-traditional GVC	Traditional GVC
<ul style="list-style-type: none"> <li>• Less actors, larger production units</li> <li>• Standards to adhere to in production</li> <li>• Technology transfer (information, processes)</li> <li>• Some processing</li> <li>• More direct relations between nodes</li> <li>• 'Quasi-hierarchical' governance</li> <li>• Buyer driven</li> </ul>	<ul style="list-style-type: none"> <li>• More actors, smaller production units</li> <li>• Lack of standards to adhere to in production (or at least, standardised product)</li> <li>• No information on product or processes</li> <li>• No processing</li> <li>• 'Arms-length' relations</li> <li>• 'Market' based governance</li> <li>• International trader driven</li> </ul>

### 5.1.1 Non-traditional GVC

The 'non-traditional' GVC has less actors and nodes than the 'traditional' GVC. In the Kenyan horticulture and 'non-traditional' GVC production units are larger as compared to the 'traditional' coffee GVC: a logical postulate given the nature of production in terms of adhering to internal and external standards.<sup>29</sup>

Dolan et al. (1999) describe the horticulture GVC as having become dominated by large retailers that have adopted competitive strategies based on quality, year round supply and product differentiation. This has led to a dramatic change in marketing channels from wholesale markets to tightly-knit supply chains. Production has moved away from small-holders to large firms, many of which are owned by exporters.<sup>30</sup>

Sourcing from directly owned units means firms are able to exert greater control over production processes and are better able to comply with quality, environmental and social standards. It also means that the necessary scale can be achieved in order to buffer major investments in irrigation systems, modern machinery and sophisticated supply-management information technologies (Farhan, 2005). Producers who are also exporters deal directly with importers within the horticulture GVC and importers, in turn, deal directly with retailers/supermarkets.

### 5.1.2 Traditional GVC

The market based 'traditional' GVC has a much looser form of co-ordination, characterised by 'arms-length' and market based governance. In the market based system, there are no standards to adhere to

<sup>29</sup> Daviron (2002) states that producing and adhering to standards may result in the presence of economies of scale at the primary production stage. Producing according to specification is difficult to manage across several small farms.

<sup>30</sup> This process is well documented by Dolan et al. (1999) as shown by Figure 3.4 although this has been the subject of some debate in terms of the actual numbers of smallholders who continue to producing for export (Minot and Ngigi, 2004) given that the figures quoted by Dolan et al. (1999) are based on interviews with large exporters only.

because the product is 'standardised'. This implies that there are low barriers to entry since all products are essentially the same.

In Uganda, the green coffee produced requires relatively simple and low technology processing or hulling (Talbot, 2002). It is typically sold to coffee millers at the farm gates. Once coffee has been milled (in order to make it less bulky) it is typically sold on to exporters and world markets where it is purchased by roasters.

In Uganda the process of liberalisation and deregulation has meant that the formal export certification procedures together with the co-operative sector all but disappeared (Ponte, 2002b). Post-liberalisation in Uganda has meant some direct buying by roasters from local exporters. Liberalisation has also paved the way for some 'own estate' production of coffee by large multi-national roasters. Despite such innovations in Uganda and the coffee and commodity markets more generally, the predominant route of purchasing green coffee is via spot markets.

## 5.2 High value vs. low value?

One of the key distinguishing features between the 'non-traditional' and 'traditional' GVCs are standards to adhere to in production. In the Kenya-UK horticulture chain, private and mandatory standards have merged in the form of GlobalGAP which means producers have to retailer specifications in addition to legally binding market access requirements.<sup>31</sup>

What were previously private and voluntary standards may over time become mandatory or at least, *de facto* mandatory, necessary in order to access markets.<sup>32</sup> As lead firms increasingly seek to set the parameters under which participating nodes, and new entrants, must conform, this raises standards of production for all.

As part of this development, learning rents may be necessary to support the upgrading process within developing countries. For example, in the case of Kenya, donor support has been considerable in ensuring adherence to GlobalGAP. Outgrower schemes have been made available and national standards such as KenyaGAP developed and benchmarked to this effect.

Standards in this case act both as a barrier to entry and a stimulus for better organisation and more sophisticated farming practices: the imposition of barriers to entry results in the opportunity for some to obtain temporary rents. However, this is also becoming the case in the 'traditional' coffee GVC in Uganda.<sup>33</sup> Nevertheless, horticulture exports are typically referred to as being 'high value' and are actively promoted to reduce dependence on a few 'commodities'. This however, overlooks a number of important considerations, some of which are discussed below.

### 5.2.1 Rents

Schumpeterian (innovation) rents<sup>34</sup> and non-economic rents, such as policy rents for learning, monitoring and managing, are 'closely related ... each has something to do with information and institutions' (Khan, 2000: 25).<sup>35</sup> This indicates that some rents are created and earned by innovators –

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<sup>31</sup> Due to the legislative requirements of EU food traceability requirements, buyers need to be able to trace their supply chains and production units. GlobalGAP was formerly known as EurepGAP, being a European retailer initiative. The scheme is now global with producers around the world being certified.

<sup>32</sup> Some argue that the distinction between mandatory, voluntary and private standards is becoming increasingly blurred; indeed 'a cumulative reading of these changes may suggest that 'private' regulation is if not *de jure*—at least *de facto*—substituting public regulation' (Ponte, 2004: 10).

<sup>33</sup> Not only are alternative markets being sought through labelling, but also the opportunity to access niche markets through selling more Arabica coffee, and selling own brand coffee in China.

<sup>34</sup> Temporary rents earned by innovators; Schumpeterian rents reward innovations (Khan 2000).

<sup>35</sup> The main difference between Schumpeterian and learning rents is that the latter are artificially created by states to accelerate learning in infant industries. The former result from the efforts of private individuals or enterprises which may result

as in product innovation driving growth models - while others are created institutionally to support 'learning by doing'.

What was once a commodity may become de-commodified through the imposition of additional standards in production,<sup>36</sup> increasing competition over product quality and differentiation – as opposed to price.<sup>37</sup> This requires a 'quasi-hierarchical' governance structure. The inverse would suggest commodification and, in the process, a transition to a 'market based' governance structure. One can therefore posit that what was once developed as a niche market could eventually become the market minimum, over time.

This could occur as supplier capabilities and capacities develop to such an extent that lead firms are able to take a more hands off role (transition to market based governance). Or that increasingly the minimum market requirements mean that firms or governments need to make the necessary investments *before* inclusion within a particular GVC, or face exclusion. This indicates that production of a non-traditional or 'high value' agricultural good may refer to a point in time, as opposed to the actual product itself.<sup>38</sup>

### 5.2.2 Knowledge gaps

As discussed previously, most comparable studies use the 'value distribution' approach and accrue shares of the final retail price across nodes of production as the means for understanding the division of value added across a GVC. This, however, tells us little about the processes of value creation at nodes, which may necessitate structural changes in production.

Analysis suggests that the largest shares of final retail price or value-added within horticulture are received by retailers and/or buyers. This is similar to the traditional coffee GVC, where roasters and / or branders typically receive the largest share of retail value added. This in turn begs the question: are non-traditional exports really high value?

## 6. GVC upgrading

A four-fold distinction of 'upgrading' methods and types argued to be 'gaining acceptance in the international debate' (Humphrey and Schmitz, 2004: 342) are illustrated in Table 2 (Appendix). Some slight amendments have been made in order to better tailor upgrading typologies to agricultural goods. For example, process upgrading may result from new technology or information which enables a higher volume of product to be produced for a reduced or 'smarter' input. Product upgrading may result from selling a labelled product, which may command a higher unit value and price. Both essentially require increasing degrees of information and or technology; this necessitates a change in co-ordination and therefore GVC governance structure.

GVC analysis emphasizes cross-border linkages between firms in global production and distribution systems and governance through non-market relations, particularly important for the generation,

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in monopoly profits being earned or alternatively may require monopoly rents or a monopolistic market structure in order to sustain innovative activities. Kaplinsky (1998) discusses some standards as a form of 'policy rent'. This classification may be correct in describing some institutionalised or 'mandatory' standards. Assuming the policy rent is fixed, it acts as a barrier to entry.

<sup>36</sup> Product and process.

<sup>37</sup> 'Commodities' are typically standardised and produced with a minimal amount of information, low barriers to entry and traded through 'market based' governance structures.

<sup>38</sup> Indeed Humphreys (2003) points out that the level of coordination required within the horticulture chain is not the result of intrinsic characteristics of the good, but the result of four key factors: increasing buyer power; competitive strategy built on product differentiation; increasingly stringer retailer specifications; ethical concerns raised both NGOs and consumers. Similar trends are exhibited in traditional commodities.

transfer and diffusion of knowledge which enables firms to improve their performance and upgrade (Humphrey and Schmitz, 2004). There is, however, increasing recognition that the governance structures which facilitate fast acquisition of some productive capabilities may also create barriers to the acquisition of others such as design and marketing capabilities (*Ibid*).<sup>39</sup>

Chain relations are therefore associated with different upgrading opportunities; circumstances in which global buyers seek to govern (explicitly co-ordinate) and foster the upgrading of suppliers in some cases, but not in others.<sup>40</sup> That is, transaction specific investments for upgrading are forthcoming in some instances – but not in others. Gibbon (2001: 346) discusses chain co-ordination as enhancing barriers to entry, but more importantly allowing ‘driving’ agents to institute measures which reduce costs and risks while increasing the speed and reliability of supply, which increases sales. This implies that chain co-ordination and upgrading usually occurs when it benefits the chain driver, but this doesn’t necessarily mean it’s a zero-sum game.

Although participation in a non-traditional GVC is assumed to be more beneficial than a traditional GVC for some producers, there is a considerable lack of empirical evidence in this respect. Current approaches to GVC analysis do not tell us a great deal about the value addition process at nodes nor how the upgrading process takes place. When studies do, they tend to be negative. In the Dolan et al. (1999) study<sup>41</sup> the number of producers excluded from participation in the UK-Kenya horticulture GVC was emphasised as opposed to the potential benefits for those included (such as higher wages and higher skilled employment in processing).<sup>42</sup>

Kenya is a low income country with a high degree of landlessness. Thus, the risk of smallholder marginalisation was arguably a justifiable concern and a reason for the research focus in the Dolan et al study. Perhaps the jobs posited as resulting from agricultural intensification and expansion were not forthcoming? But what about in the many other low income countries where non-traditional agricultural goods have been pushed both by donors and host governments as an export diversification strategy?<sup>43</sup>

## 7. Policy implications

In sum, the research focus of GVC analysis should not be on how extractive GVCs are in terms of dividing up final retail prices and accruing shares to participants, since we all know that trade between developing and developed countries is asymmetric. Instead, given the move towards increasingly quasi-hierarchical governance structures of traded agricultural goods, we should reorient the GVC research focus to those aspects of participation which are adding value in the domestic context. There is increasing recognition that it is no longer appropriate to think of trade in terms of goods but instead in terms of tasks (Grossman and Rossi-Hansberg, 2006). This means disaggregating the value-added and skill components of trade.

The achievement of ‘learning by doing’ and ability to upgrade may be enhanced or limited by GVC relations and governance structures. Learning effects are cumulative and, if maximised, are likely to have positive spillovers on other sectors of the economy. However, if processes of ‘learning by doing’ are not sustained, countries may experience immiserising growth vis-à-vis their more technologically advanced trading partner.

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<sup>39</sup> With the ability to govern often resting in intangible competencies such as R&D, design, branding, marketing, which are characterised by high barriers to entry and command high returns (Kaplinsky, 2000).

<sup>40</sup> See Humphrey and Schmitz (2004).

<sup>41</sup> In Kenya many smallholders are unable to adhere to standards in production and have been marginalised or excluded from the upgrading process as a result

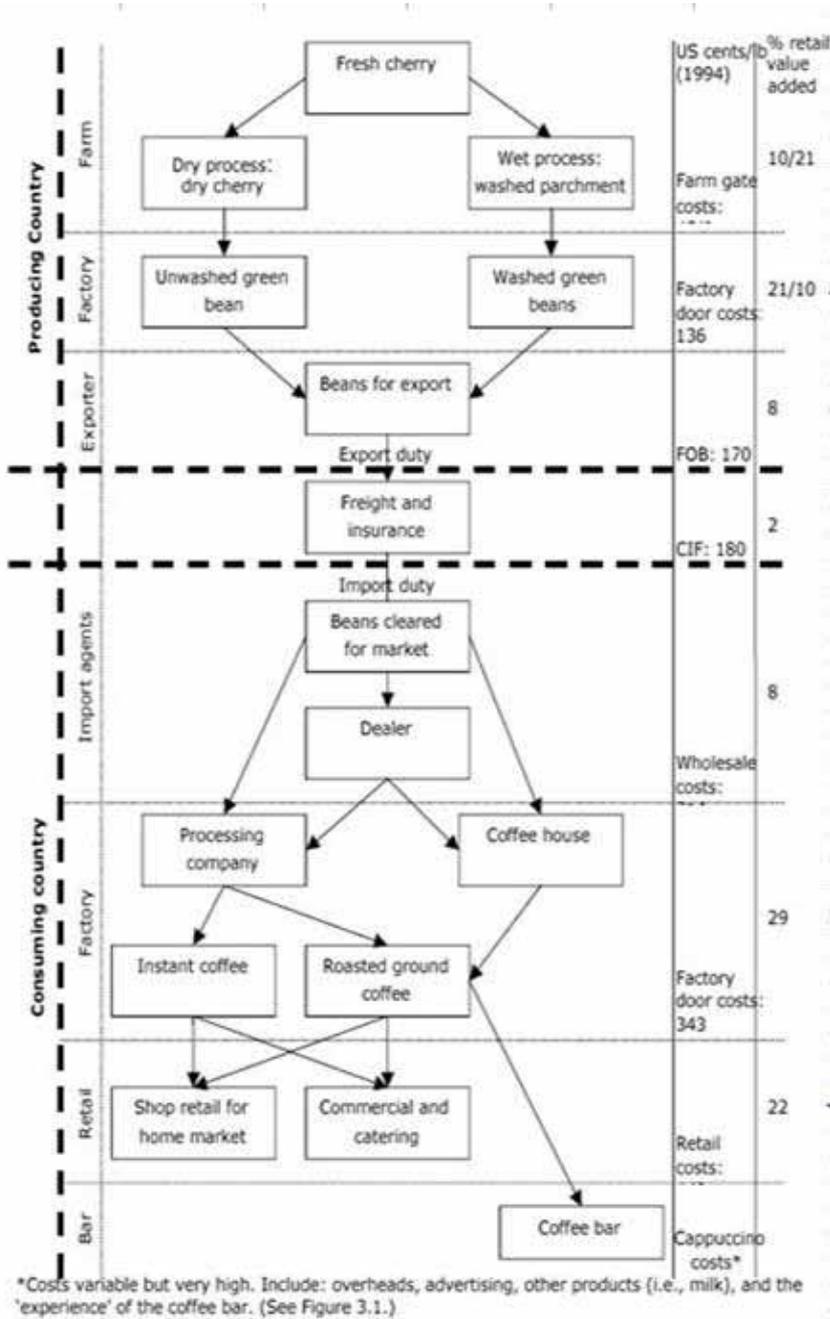
<sup>42</sup> Humphrey (2003) points out that households with an employee working in export horticulture were typically less poor, even if the member of the household was employed in a pack-house.

<sup>43</sup> Including fish, flowers, and spices.

Current trends in agricultural trade suggest the need to better understand the processes and impact of a general transition to 'quasi-hierarchical' governance structures in traded agricultural goods in wider developmental terms. This requires a 'new' approach to GVC analysis that brings together value distribution and input:output approaches and seeks to better understand the interaction between internal and external GVC governance structures, including the role of standards. This working paper serves to highlight the need for further comparative GVC research, taking a 'new' approach forward which may be applied to traded agricultural goods.

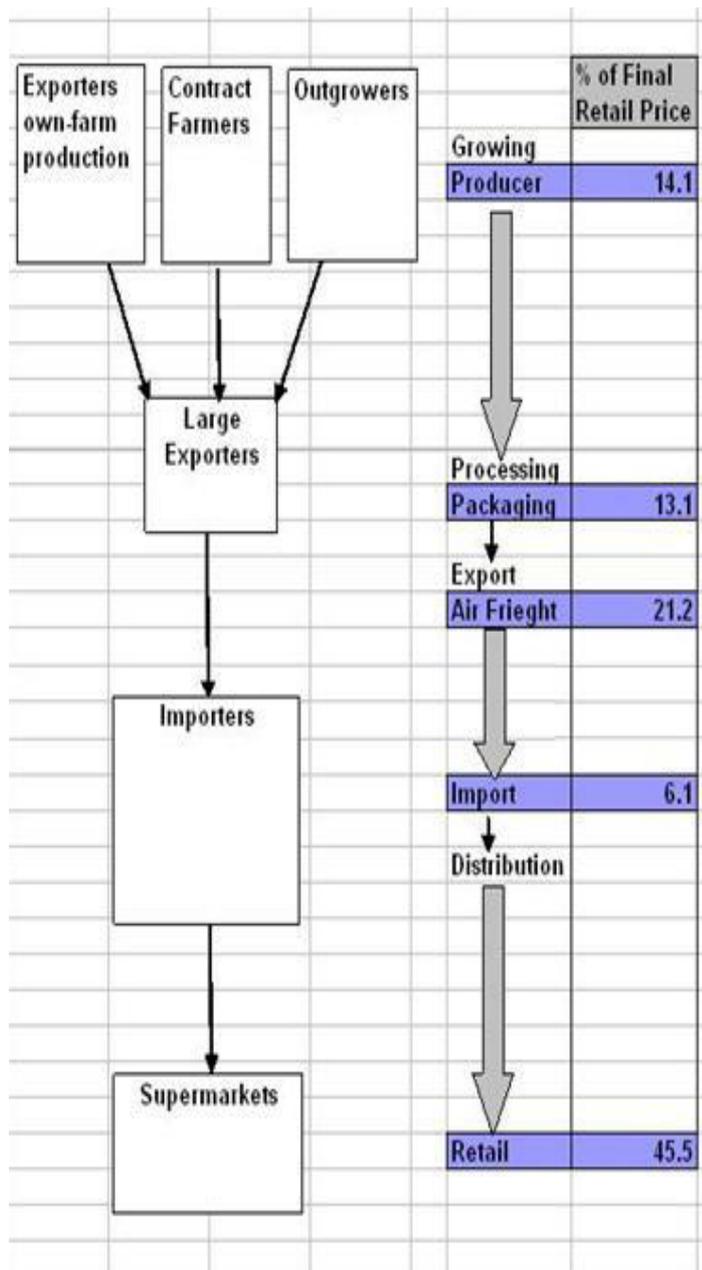
# 8. Appendix

Figure A1: The Coffee GVC (Market-based governance)



Source: adapted from Kaplinsky and Fitter (2001a)

Figure A2: The Horticulture GVC (quasi-hierarchical governance)



Source: adapted from Dolan et al. (1999) and Humphreys (2001)

**Table A1: Examples of Parameter Setting and Enforcement<sup>44</sup>**

Parameter Setting ↓	Parameter Enforcement →	
	Lead Firm	External Agent
<b>Lead Firm</b>	<p>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.</p> <p>(The greater the extent that the lead firm specifies non-standard parameters the greater the likelihood it will have to arrange for enforcement)</p>	<p>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 ISO9000, ISO14000 and SA8000 certification.</p>
<b>External Agents</b>	<p>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.</p> <p>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.</p>	<p>4. The EU requires that surgical instrument manufacturers exporting to the EU must be ISO9000 certified. The certification is carried out by independent certification agencies.</p> <p>(Parameters are specified by agents external to the chain and the monitoring of processes are also in the hands of agents external to the chain).</p>

Source: Humphrey and Schmitz (2001)

**Table A2: Methods of Upgrading**

Process upgrading	Transforming inputs into outputs more efficiently by re-organising the production system or introducing superior technology. This may be irrigating land to reap two crops in a year, use of pesticides or mechanical picking, as examples.
Product upgrading	Moving into more sophisticated product lines (which can be defined as increasing unit values). This may be better quality seed supply for example.
Functional upgrading	Acquiring new functions in the chain (or abandoning existing functions) to increase the overall skill content of activities. Such as the transition from OEM (original equipment manufacture) to ODM (own design manufacture) to OBM (own brand-manufacture).
Inter-sectoral upgrading	Using the knowledge acquired in particular chain functions to move into different sectors.

Source: adapted from Humphrey and Schmitz (2004)

<sup>44</sup> Humphrey and Schmitz (2004) hypothesise that there is some incentive for firms to shift parameter setting and enforcement from boxes 1 to 3 and from boxes 2 and 4. Such a shift would reduce the cost of direct monitoring leading to a process of external certification. Generally speaking the costs of this certification are borne out by the supplier rather than the buyer.

## 9. References

- Amin, M. M. (2004) 'Use of value chain analysis to support investment climate reform', World Bank Private Sector Forum; available at <http://rru.worldbank.org/Documents/PSDForum/2004/amin.pdf>
- Baffes, J. (2006) 'Restructuring Uganda's Coffee Industry: Why Going Back to Basics Matters', *Development Policy Review*, 24 (4):413-436.
- Chang, Ha-Joon (1994) *The Political Economy of Industrial Policy*, MacMillan Press, New York.
- Daviron, B. (2002) 'Small Farm Production and the Standardisation of Tropical Products', *Journal of Agrarian Change*, Vol. 2 (2): 62-184.
- Dolan, C, Humphrey, J and Harris-Pascal, C. (1999) 'Horticulture Commodity Chains: The Impact of the UK Market on the African Fresh Vegetable Industry', *IDS Working Paper 96*, Institute of Development Studies, University of Sussex.
- Farhan, O. (2005) 'Understanding and Escaping Commodity-Dependency: A Global Value Chain Perspective', *Prepared for the Investment Climate Unit*, International Finance Corporation, The World Bank Group.
- Fine, B. and Deraniyagala (2001) 'New Trade Theory versus Old Trade Policy: A Continuing Enigma', *Cambridge Journal of Economics*, 25: 809-825.
- Fine, B. (2003) Capital Theory, in King, J.E (Ed), *The Elgar Companion to Post-Keynesian, Economics*, 2003, Edward Elgar, Cheltenham (UK): 51-57.
- Flavey, R. Foster, N. and Greenaway, D. (2002) 'North-South Trade, Knowledge Spillovers and Growth', *International Economic Review* 43 (2): 393-407.
- Gereffi, G. and Korzeniewicz, G. (Ed) (1994) *Commodity Chains and Global Capitalism*, Praeger: London
- Gereffi, G, Humphrey, J, and Sturgeon, T. (2005) 'The Governance of Global Value Chains', *Review of Political Economy* 12 (1): 78-104.
- Gibbon, P. (2005a) 'The Commodity Question: New Thinking on Old Problems', *Human Development Report 2005*, Human Development Report Office Occasional Paper, UNDP 2005/13.
- Gibbon, G. and Ponte, S. (2005b) *Trading Down: African, Value Chains, and the Global Economy*, Temple University Press: Philadelphia.
- Gibbon, P. (2004) The Commodity question: new thinking on old problems, UNDP Occasional Paper, available at: [http://hdr.undp.org/en/reports/global/hdr2005/papers/hdr2005\\_gibbon\\_peter\\_13.pdf](http://hdr.undp.org/en/reports/global/hdr2005/papers/hdr2005_gibbon_peter_13.pdf)
- Gibbon, P. (2001) 'Upgrading Primary Production: A Global Commodity Chain Approach', *World Development*, Vol 29 (2): 345-363
- Grossman, G. and Rossi-Hansberg (2006) The Rise of Offshoring: Its Not Wine for Cloth Anymore, available at: <http://www.kansascityfed.org/PUBLICAT/SYMPOS/2006/PDF/Grossman-Rossi-Hansberg.paper.0728.pdf>
- Grossman, G. and Helpman, E. (1989) 'Product Development and International Trade', *Journal of Political Economy* 97; 1261-1283.
- Hidalgo, C. Klinger, B. Barabasi, A. And Hausmann, R. (2007) 'The Product Space Conditions the Development of Nations', *Science* 317, 482.
- Humphrey, J and Schmitz, H. (2004) 'Chain Governance and Upgrading: Taking Stock', in Schmitz, H. (Ed) *Local Enterprises in the Global Economy*, Cheltenham: Edward Elgar; 349-382.
- Humphrey, J. (2003) 'Commodities, Diversification and Poverty Reduction', Paper presented at FAO symposium on the state of agricultural commodity market research; available at: [http://www.soc.duke.edu/sloan\\_2004/Papers/Humphrey\\_CommoditiesFAO\\_Jano4.pdf](http://www.soc.duke.edu/sloan_2004/Papers/Humphrey_CommoditiesFAO_Jano4.pdf)
- Humphrey, J. and Schmitz, H. (2001) 'How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters?' *IDS Bulletin*, Institute of Development Studies, University of Sussex.
- IFC (2007) 'Moving towards competitiveness: a value chain approach'; available at: [http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/MovingTowardCompetitiveness/\\$FILE/Value+Chain+Manual.pdf](http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/MovingTowardCompetitiveness/$FILE/Value+Chain+Manual.pdf)
- Kaplinsky, R. (2004) 'A Note on Immiserizing Growth', available at: [http://www.soc.duke.edu/sloan\\_2004/Papers/Memos/Kaplinsky\\_immiserizing%20growth\\_25juneo4.pdf](http://www.soc.duke.edu/sloan_2004/Papers/Memos/Kaplinsky_immiserizing%20growth_25juneo4.pdf)

- Kaplinsky, R. and Fitter, R. (2001a) 'Who Gains from Product Rents as The Coffee Market Becomes More Differentiated? A Value Chain Analysis', *IDS Bulletin Paper*, Institute of Development Studies: Sussex.
- Kaplinsky, R. and Fitter, R. (2001b) 'Can an Agricultural Commodity be De-Commodified and if so, Who Gains?' *IDS Discussion Paper 380*, University of Sussex.
- Kaplinsky, R. and Morris, M. (2000) 'A Handbook for Value Chain Research', prepared for the IDRC, Institute of Development Studies: Sussex.
- Kaplinsky, R. (1998) 'Globalisation, Industrialisation, and Sustainable Growth: The Pursuit of the Nth Rent', *IDS Discussion Paper 365*, Institute of Development Studies, Sussex University.
- Khan, M. and Jomo, K. (2000) *Rents, Rent-Seeking and Economic Development; Theory and Evidence in Asia*, Cambridge University Press, Cambridge.
- Lord, M. (1991) *Imperfect Competition and International Commodity Trade: Theory, Dynamics and Policy Modelling*, Clarendon Press:Oxford.
- Ponte, S. (2002) 'Brewing a Bitter Cup? Deregulation, Quality and the Re-organisation of Coffee Marketing in East Africa', *Journal of Agrarian Change*, Vol.2: 248-272.
- Raikes, P. Jensen, M.F. and Ponte, S. (2000) 'Global Commodity Chain Analysis and the French Filiere Approach: Comparison and Critique', *Economy and Society*, Vol. 38 (3): 390-417.
- Schmitz (2004) *Local Enterprises in the Global Economy*, Edward Elgar Publishing Limited: UK.
- Talbot, J. (2002) 'Tropical Commodity Chains, Forward Integration Strategies and International Inequality: Coffee, Cocoa and Tea', *Review of International Political Economy*, November 2002: 701-734.
- Wheeler, M. (1995) 'Coffee to 2000: A Market Untamed', The Economist Intelligence Unit, Research Report no M223.
- Young, A. (1991) 'Learning by Doing and the Dynamic Effects of International Trade', *The Quarterly Journal of Economics*, May, 369-405.