# A Value Chain Analysis of Fairtrade Coffee

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With Special Focus on Income and Vertical Integration

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**Abstract** 

Fairtrade represents a small but rapidly growing share of the world market. This paper discusses

Fairtrade impact on the coffee value chain. Both Fairtrade and the coffee value chain link

together the producer and the consumer. This is of importance as the geographical distance

between where most coffee is produced and consumed can be great and level development often

varies widely. In Northern consuming countries coffee has become a fashionable drink and coffee

chains expand rapidly. Coffee is becoming an increasingly differentiated product and most value

to the product is added in the North where rents are largest. At the same time, coffee prices

received by producers in the South are rather low, around the turn of the century even below

production costs. The spread between coffee producer prices and retail prices tends to increase.

This paper shows that Fairtrade increases producer income and market power. However,

Fairtrade does not necessarily increase producer share of final retail price as gains from Fairtrade

in producing countries tend to be outset by inefficiencies further down the chain.

Costa Rica has been producing coffee for 200 years and Fairtrade coffee since 1989. Costa

Rica has a long history of coffee production and provides an example of coffee producing

countries in this paper.

Keywords: Coffee, Fairtrade, Coffee Value Chain, Costa Rica

-2-

# Table of Content

1.	Introduction	6
2.	Background. 2.1 Coffee Market. 2.2 Fairtrade. 2.3 Value Chain Analysis.	8
3.	Structure of the Coffee Value Chain.  3.1. Geographical Framework.  3.2. Input-Output Relationship.  3.3 Institutional Framework- Exporting Country.  3.4 Institutional Framework- Importing Country.  3.5 Regulation.	11 12 14 16
4.	Structure of the Fairtrade Coffee Value Chain. 4.1. Geographical Framework. 4.2. Institutional Framework- Exporting Country. 4.3 Institutional Framework- Importing Country.	19 19
5.	Implications and Outcomes for Surplus and Income. 5.1. Surplus in Exporting Country. 5.2. Comparing Export and Retail Price. 5.3. Changes in Governance and Structure.	23 24
6.	Implications and Outcomes on the Fairtrade Coffee Market. 6.1. Impact of Price Floor and Premium on Producers. 6.2. Price Composition. 6.3 Willingness to Pay for Fairtrade Products.	31 34
7.	Vertical Integration. 7.1 Vertical Integration on the Coffee Market. 7.2 Vertical Integration on the Fairtrade Market. 7.3 Producer Initiatives.	38 39
8.	Conclusions References Annex: Fairtrade Standards	

## Tables, Figures and Measures

#### List of Tables

Table 1: Number of actors in the national coffee value chain

Table 2: Estimates of total surplus retained in Costa Rica and percentage of export price

Table 3: Estimated price composition of coffee value chain, Costa Rica- USA, 2007

## List of Figures

Figure 1: Coffee value chain

Figure 2: Percentage share of final retail price of coffee, world average 1965-2003

Figure 3: Price paid to growers and retail prices, 1975-2007

#### Measures

1 MT= 16.7 bags

1 bag = 60 kg

1 fanega=  $6459.6 \text{ km}^2$ 

1 libra= 46.04 kg

1 basket= 2.3 kg

1 kg of roasted coffee= 1.19 kg green coffee

1 kg of instant coffee= 2.6 kg green coffee

## Acronyms

ATO Alternative Trade Organization

CINPE Centro Internacional de Politica Económica

COOCAFÉ Concorcio de Cooperativas de Caficultores de Guanacaste y Montes de Oro

FLO Fairtrade Labelling Organizations International

FONECAFE National Fund for Coffee Stabilization

IADB Inter-American Development Bank

ICA International Coffee Agreements

ICAFE Costa Rican Coffee Institute

ICA International Coffee AgreementICO International Coffee OrganisationILO International Labour Organisation

ILOLEX Database of International Labour Standards

MNC Multi National Corporation

Sida Swedish Agency for International Development Cooperation

SMI Supply Management Inventory

UNA Universidad Nacional de Costa Rica

UNCTAD United Nations Centre for Trade and Development

USAID United States' Agency for International Development

#### 1. Introduction

Coffee is one of the five most traded primary products. In 2005 the overall global retail sales of coffee were estimated at US\$ 382 million, an increase of 38 percent from the year before. However, while retail prices follow an upgoing trend green coffee prices on the international market decrease. Producers suffer from a weak position on the market due to stagnating demand and increased supply of low quality coffee. Diversification is hindered by producers' poor access to risk management, information, infrastructure and credit. The result is a relatively small share of income to producers in comparison to other participants in importing countries.

In 1989 the International Coffee Agreements (ICAs) were abolished and as a consequence producers lost a centralizing organ and thereby bargaining and market power. Fairtrade was developed at the time to create an alternative to prevailing international trade. Fairtrade only stands for about 1-4 percent of the coffee market, but the demand for Fairtrade coffee is growing at an exceptional rate.<sup>3</sup> By the end of 2007 Fairtrade annual sales exceeded US\$ 3.3 billion, almost seventy times more than ten years ago, now benefiting 7.5 million people in 57 developing countries.<sup>4</sup>

Fairtrade aims to shorten the coffee commodity chain, to decrease the number of intermediaries and to thereby reduce transaction costs and increase the income share of final consumer price to producers. The purpose of this thesis is to, through a value chain analysis, study whether Fairtrade actually improves the returns to producers. Fairtrade impact in general on producers and producer organizations will only briefly be discussed in chapter two.<sup>5</sup> The value chain approach is chosen as it allows identification of actors and activities

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<sup>&</sup>lt;sup>1</sup> Fairtrade Foundation (20051203) p. 3

<sup>&</sup>lt;sup>2</sup> Green coffee is processed but not roasted and is the most common form of traded coffee. Here green coffee and coffee for export are used interchangeably.

<sup>&</sup>lt;sup>3</sup> Fairtrade coffee sales volume of all coffee imported by importing countries increased from 0,9 percent to 3,8 percent between 2000 and 2007 according to figures from Fairtrade Labelling Organization homepage and ICO homepage.

<sup>&</sup>lt;sup>4</sup> FLO (2007)

<sup>&</sup>lt;sup>5</sup> Instead readers with such interest are recommended Tuvhag (2007), Nicholls, Opal (2005), Ronchi (2002)

from seed/plant to supermarket aisles, from producer to consumer. Both Fairtrade and the coffee value chain link producers and consumers across wide geographical distance. The coffee value chain will first be explained in terms of structure and later in terms of shares of income and governance among the different actors along the chain. Finally vertical integration is introduced.

Part of the information in this paper was collected in Costa Rica, the country which will serve as an example of a coffee producing country in this paper. The choice of turning focus to Costa Rica can be motivated by the fact that the country has a long history of coffee production and export. Costa Rica has enjoyed concerted Fairtrade intervention since 1989 when Coocafé, consisting of 9 cooperatives, started exporting Fairtrade coffee from Costa Rica. Further, the coffee market in Costa Rica is regulated by law. Thereby the research and regulatory body, the Coffee Institute of Costa Rica (from its Spanish acronym ICAFE) keeps updated and detailed information about the activities involved and participating actors in coffee production and trading in Costa Rica, which is favourable when making an accurate analysis of the coffee value chain.

Costa Rican coffee sold and certified as Fairtrade is almost exclusively for export and therefore the comparison of coffee value chains is made in regard to conventional coffee for export.<sup>6</sup> It is possible to distinguish three main end products: roasted bean, soluble coffee and coffee beverages. Each type is a result of different actors, business organization and market structures, though this study focus on the roasted bean.

This paper starts with background information about the coffee market, Fairtrade and value chain analysis. Thereafter, the structure of the coffee value chain is explained. The next chapter analyses the structure of the Fairtrade coffee value chain and comparisons are made with the conventional market. In the fifth chapter implications of the structure are analysed, with special focus on producer share of income and in the sixth chapter implications for the Fairtrade market are analysed. Vertical integration is introduced in chapter seven. The eighth chapter concludes the study.<sup>7</sup>

<sup>6</sup> Only a tiny proportion is sold for tourist consumption in Costa Rica, mainly in souvenir shops.

<sup>&</sup>lt;sup>7</sup> A special acknowledgement is due to the staff of Coocafé and to its primary level cooperatives, Marco Araya Molina at ICAFE, Carlos Lopez at Cafécoop, Marjorie at UNA, Rafael Díaz Porras and the always so helpful staff of the CINPE library. I would also like to thank Rachel Archer at Twin Trading and Denis O. Seudieu, Martin Wattman and Pascale Evans at the ICO. Finally, I would like to thank my supervisors, Yves Bourdet and Joakim Gullstrand.

## 2. Background

#### 2.1 Coffee Market

Historically coffee trade has been one of the main sources of growth in Costa Rica, Brazil and many other countries. However, while the coffee production in Costa Rica is decreasing, Brazil has managed to expand coffee production and export as a tool to promote development. Brazil, together with Vietnam, has gained its market position from more technological production and lower production costs. This has been possible through production of low quality products, which are less labour intensive and do not require manual collection.

For a long time the Costa Rican name of the intermediary product for export was *café oro* (gold coffee). The change in name to *café verde* (green coffee) represents not only a new vocabulary, but also a change in appreciation of the product. There are mainly two types of coffee; Arabica and Robusta. Arabica is high quality coffee that demands manual collection and Robusta is a lower quality coffee which to a higher degree can be harvested mechanically. Despite relatively high yields and a high degree of technical production, profits have been lower in Costa Rica mostly due to higher labour costs than in Vietnam and Brazil and due to strict regulation that prohibits production of low quality coffee.

Many developing countries are still heavily dependant on the export of coffee, for example Burundi, Rwanda, Benin and Nicaragua. For these countries negative income shocks have a significant impact on the balance of payment and the financial sector, limiting banking activity and financing to other sectors.

Fairtrade works to improve the livelihood of certified producers. To decrease poverty is to increase opportunities, empowerment and security of the most marginalised. Opportunities of people living in poverty can increase by improved access to credit, markets (trade), infrastructure and education. Producers can be empowered through democratic systems and institutions that are accountable and transparent. Further, information and social capital can be important for empowerment. Security includes successful diversification and risk management to decrease risks of price shocks. Fairtrade addresses all these issues. Nevertheless, Fairtrade does not constitute the first best solution, which would be improved

social service on a national level and if distorting signals and market failures were tackled at their source and thereby benefiting all actors at the market.

#### 2.2 Fairtrade

Fairtrade has grown into one of the most used commodity certifications that aim to increase sustainability. The objective of Fairtrade is to alleviate poverty of agricultural commodity producers in the least developed countries by offering them better trading conditions. Fairtrade brings benefits to small scale farmers in Africa, Latin America and Asia. There are Fairtrade standards for 18 different product categories, most of them include food and drinks, but cotton, flowers and soccer balls are also represented. While Fairtrade products still only represent about 1-4 percent of the respective markets, in 2007 the estimated retail value of Fairtrade certified products increased by 47 percent, from US\$ 2.2 to US\$ 3.3 billion. Fairtrade coffee has also continued to grow steadily and Fairtrade coffee is the fastest growing segment of the speciality coffee industry in the United States and the UK. Imports of Fairtrade coffee increased by 19 percent in 2007 to be compared with coffee imports in general which grow by only 2 percent.

Fairtrade works toward:<sup>11</sup>

- Producers being paid fair prices.
- Increased opportunity for producers to improve their lives.
- A stronger position of small-scale farmers on the world market.
- A closer link between consumers and producers.
- Greater respect for the environment.

What can be considered a fair price is questionable, but the level of the minimum price is based on estimates of general subsistence level. From first of June 2008 Fairtrade guarantees an agreed minimum FOB price for washed Arabica of US\$ 1.25/lb and a social premium of 10 cents/lb. The social premium is to be used by the cooperative to development projects such as new schools, improved education or better infrastructure. Long term contracts, less price volatility and increased respect for the environment increase sustainability of production. Further, Fairtrade presupposes that farmers are organized in

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<sup>&</sup>lt;sup>8</sup> For full list of certified products see FLO homepage: www.fairtrade.net

<sup>&</sup>lt;sup>9</sup> Nicholls, Opal (2005) pp. 5, 191

<sup>&</sup>lt;sup>10</sup> FLO press release 20080522 and ICO figures

Standards for Fairtrade producer organizations and traders are summarized in annex 1. For a detailed description of certification, policies and aims see the homepage of FLO: www.fairtrade.net

<sup>&</sup>lt;sup>12</sup> Until last of May 2008 minimum price was 1.21 per pound and the social premium was 5 cents.

cooperatives that are based on democratic decision-making, which increases farmers opportunities to influence their present situation. Fairtrade provides market information, capacity building and advance payments to producers (if requested, up to 60 percent of the purchase price should be pre-financed to the producer cooperative). The latter factors are at least as important as, or even more important than, the price floor and premium to improve the livelihood of producers.

## 2.3 Value Chain Analysis

Coffee is concerned with the organization of economic activity within and between markets and actors. Value chain analysis (also called commodity chain analysis) disaggregates the international structure of production, trade and consumption of commodities and allows for identification of actors and geographical division. The value chain approach has been developed by world-systems theorists and has been used as a main analytical tool in studies of the coffee market. Three key dimensions of value chain analysis can be identified in their work; the input-output relationship and geographical coverage; institutional framework and governance structure; share of income. The input-output relationship concerns the link of inputs, activities and actors involved in the production, trade and finalization of the commodity for the consumer market and the geographical coverage. Governance of value chains concerns entry barriers, chain coordination and to subordinate other actors. In this study a fourth dimension is included, as value chain analysis also can be used as a tool to study vertical integration.

<sup>&</sup>lt;sup>13</sup> For example by Gereffi (1994), Talbot (1997), Ponte (2001) and (2002), Kaplinsky and Fitter (2001) and (2002), Kaplinsky 2004 and for the Costa Rican market by Pelupessy (2001).

## 3. Structure of the Coffee Value Chain

In this section the structure of the coffee value chain is analysed. This will be useful for the following chapter which analyses the structure of the coffee value chain for Fairtrade coffee and where some comparisons between the two markets are made. This is also important for the analysis of the share of income along the chain and vertical integration. The coffee commodity chain is a vertically organized network of labour and production processes conceptualised as a series of nodes that are linked by various types of transactions and whose result is a finished commodity. In this chapter the geographical framework, the input-output relationship from the cultivating of a coffee tree to the selling of ground coffee in commercial stores is described, as well as the different actors that are involved in the transactions. Institutional framework and regulation is also part of the chapter.

## 3.1 Geographical Framework

The chain is vertically organized and has a bipolar nature, with production taking place in developing countries and main roasting, commercialisation and consumption in northern industrialized countries.

Coffee is produced in about 50 countries in Latin America, Africa and Asia and it is an important source of income for 20-25 million families worldwide. Most coffee consumption and value added takes place in importing countries. Main coffee importing countries are US, Japan and several EU member states. The geographical division, in line with conventional trade theory, can be explained in terms of comparative advantages and to differences in relative endowments of factors of production. The production, and especially the collection of the beans, is labour intensive while roasting can be seen as more capital intensive. Hence farming is performed in more labour abundant, low and lower middle income countries, and the roasting and branding in more capital abundant, high income countries. Tropical and subtropical countries have an advantage in production as the climate is well suited for coffee

<sup>&</sup>lt;sup>14</sup> Giovannucci, Lewin and Varangis (2004) p. 1

production (quality coffee also requires high altitude) while importing countries have an advantage in roasting as it, at least historically, had to be carried out close to the customer due to short shelf-life. Proximity to the final buyer further increases information about consumer preferences (such as taste, packaging and brands etc) and is essential for customer service.

#### 3.2 Input-Output Relationship

The structure of the coffee value chain is very alike in most countries. It concerns the cultivation, collection, processing, roasting and marketing of coffee and includes various actors. The coffee value chain for traded coffee, which is shown in figure 1, also includes exporting and importing of coffee. The figure does not show the supply of and demand for inputs (seed, fertilisers and pesticides), equipment to coffee growers, transportation of seeds and the financing institutions that provide input credits.

At the top of the chain is the coffee cherry. Coffee can in this early stage be differentiated by type (Arabica or Robusta) and natural conditions such as altitude, latitude and volcanic soil. Robusta coffee has a harsher taste, twice the caffeine content and can be grown between sea level and 800 metres above sea-level. Robusta has a ripening period of between 9-11 months and is more resistant to pests and diseases than Arabica. Arabica coffee is known for its higher quality, but can only be produced in warmer temperate zones or in highlands of tropical zones and has a shorter ripening period of about 6 months. Normally an Arabica coffee tree flowers in its third or fourth year, but it mostly takes longer before it reaches full harvest even if many coffee farmers do what they can to speed up the process. After about 20 years the tree's productivity diminishes, however with correct handling it can bear fruit for more than 50 years.

Coffee berries are collected and transported to the processing mill, where the berries are processed, sorted and graded after size, weight and form. In Costa Rica, by law, producers must sell their coffee cherries to an ICAFE-registered processing mill within 24 hours of harvesting. This time limit is set as the amount of time from harvest to processing of coffee berries affect quality. Because of the time limit the processing mill must be located relatively close to the farmers. In Costa Rica it is mostly the producer or the cooperative that stands for the transport, but it can also be independent actors. The cost for transportation, from the field to the mill, can be significant when producers are widespread.

Fresh cherry Farm Wet process: Dry process: Producing Country dry cherry washed parchment Factory Unwashed green Washed green bean beans Exporter Beans for export Export duty Freight and insurance Import duty import agents Beans cleared for market Dealer Processing Coffee house company Roasted ground coffee Retail Commercial and Shop retail for catering home market

Figure 1: Coffee value chain

Source: Fitter and Kaplinsky (2001), modified by the author

There are two processing methods: wet and dry process. The dry process is the oldest and cheapest method, still used where there is a shortage of water or when the coffee is of lower quality. In Costa Rica berries are processed through the wet process. The wet process requires a lot of effort, time and water and thereby also money. Only ripe berries can be used and these are washed in big basins, peeled in big machines and finally fermented during 12-40 hours. At smaller cooperatives the berries can be sundried instead of fermented. To sundry the cherries does however make the producers more vulnerable to bad weather. When the beans have been classified, controlled and graded they are packed in bags and in the case of Coocafé

transported to Heredia where coffee from all the nine cooperatives is assembled and where the consortium once again classifies, controls and grades the bean. Thereafter the coffee is ready to be exported.

Most international coffee trade consists of green coffee packed in 60-kg bags. International traders are mostly concerned with the uniformity and consistency of green coffee. It is important for the trader to know the type of coffee (Arabica or Robusta), the type of processing (wet or dry), the country of origin and the official grade standard. International traders get access to green coffee either directly from its origin or from the spot market in US and Europe. The procedure of assessment is re-established when the beans reach the import agent and for a third time immediately before roasting.

The roasting can take place either at a processing company or at a coffee house. Roasters usually blend coffee of different origin and type together. Coffee beans are heated to between 180°C and 240°C for 8 to 15 minutes, depending on the degree of roast required. The longer the coffee is roasted the darker it becomes. During the roasting process moisture is lost and a chemical reaction takes place: starches are converted into sugar, proteins are broken down and the whole cellular structure of the bean is altered. The heating process precipitates the release of coffee oil, which is the essence of coffee. Once coffee is roasted and blended, the most important quality issue for mainstream roasters is homogeneity in time and space. One blend has to taste the same everywhere and at all times. Finally, the coffee is grinded and branded, sold on to the retailers and eventually reach the final market in roasted ground form. Roasters have invested in product innovation and segmentation in order to increase value added, competitiveness and to enter markets where there is a potential of consumption. The result is more differentiated final products. <sup>16</sup>

#### 3.3 Institutional Framework- Exporting Country

Most coffee farms are driven by families in developing countries or lower middle-income countries. Coffee is dominated by small-scale producers and some 10 million coffee farmers, each producing on less than 10 hectares of land, produce 70 percent of the world's coffee.<sup>17</sup> In

<sup>17</sup> Ronchi (2006) p. 6

<sup>&</sup>lt;sup>15</sup> The official grade standard describe size, desity, shape and the number of defects in a standard weight sample. <sup>16</sup> The input-output relationship of the coffee value chain is well described by Gereffi (1994), Daviron and Ponte (2005), Fitter and Kaplinsky (2001), Kaplinsky (2004), Talbot (1997), Días Porras (2003), Ponte (2001), ICO homepage and valuable information has also been obtained from a field study in Costa Rica.

Costa Rica 91.6 per cent of all coffee producers are small-scale producers but they only produce about 40 percent of all coffee in the country. 18

Table 1: Number of actors in the national coffee value chain

Actors	1996/1997	2006/2007	Change in %
Producers	71 787	56 896	-21
Processing mill	96	127	32
Exporters	38	64	70

Source: ICAFE (2007) p. 22

Together farms, processing factories and export agents constitute the national coffee value chain. Below table 1 shows changes in structure of the Costa Rican coffee market during the last ten years. The table shows that while the number of producers has decreased drastically the number of processing factories and exporters have increased. Changes in number of actors can be derived from changes in profit, composition and regulation. At the turn of the century the number of producers decreased since producer prices were low, in some regions below production costs. On the other hand change in number of processing factories is a result of changes in composition. Between 1995/1996 and 2005/2006, the processing factories declaring over 10.000 fanegas of coffee declined with 40 percent while those declaring less than 10.000 fanegas increased by 360 percent. Large processing factories have experienced increased competition. They have had to increase their productivity, go down in size or exit the market, while new actors have entered.

Processing factories can be run independently, in cooperatives or in cooperation with exporters. In Costa Rica 76 percent of the processing factories are run independently, 15 percents in cooperatives and 9 percents in cooperation with exporters. <sup>19</sup> On average the independent processing factories process remarkably less coffee than the other two forms. However, independent processing factories also process coffee from a smaller number of farmers since farmers who deliver their coffee to independent processing factories sell about three times more coffee than those who sell to cooperatives.<sup>20</sup> Nevertheless the share of independently owned processing factories is on the rise while the share of processing factories

<sup>18</sup> ICAFE (2007) p. 24 <sup>19</sup> For figures see ICAFE (2007) p. 26 <sup>20</sup> Mosheim (2002) p. 312

in cooperation with exporters tends to decrease. Altogether, there are a total of 127 processing factories in Costa Rica.<sup>21</sup>

When making a comparison between the different actors it is remarkable how the number of exporters has increased. This is probably a result of the exporting stage being liberalized and no longer regulated by the national coffee institute, ICAFE.

## 3.4 Institutional Framework- Importing Country

In the 1990s the trading industry became increasingly concentrated. Mid-sized traders with unhedged positions found themselves too small to compete on the market and either left the market, merged with others or were taken over by larger traders. In 1998 the two largest traders, Neumann Gruppe and Volcafé, controlled 29 percent of the market, and the top six companies 50 percent.<sup>22</sup>

On the other hand roasters are increasing in number. In 1987, the three major roasting companies in the US held almost 90 percent of the retail market. By 1993 they had lost 12 percent of the market share to Starbucks, other regional cafés and speciality roasters.<sup>23</sup> Now, the two biggest roasters, Nestlé and Phillip Morris, control about 50 percent of the market share for roasted and instant coffees and the five biggest roasters control about 70 percent of the market.<sup>24</sup> Now20 percent of the US market is controlled by 1 900 small roasters.<sup>25</sup>

Supermarket chain margins vary from 12-15 percent for lower quality blends to 20 percent for higher quality blends. In comparison to other food items, these are fairly low margins.<sup>26</sup>

## 3.4 Regulation

For most of the 20th century the coffee market was subject to various supply control schemes. The most important supply control scheme was undoubtedly the International Coffee Agreements (ICAs), administered by the International Coffee Organization (ICO). The stated objective of these arrangements was to stabilize price, but in the end prices often turned out to be higher than they would have been on a liberalized market. Strategic rents were created by the export quota system. Quota rents created an incentive for rent seeking resulting in welfare

<sup>&</sup>lt;sup>21</sup> For figures see ICAFE (2007) p. 26

<sup>&</sup>lt;sup>22</sup> Daviron och Ponte (2005) pp. 91, 92, 93 <sup>23</sup> Daviron and Ponte (2005) p. 78

<sup>&</sup>lt;sup>24</sup> The five biggest roasters are Phillip Morris (25 %), Nestlé (24 %), Sara Lee (7 %), Procter and Gamble (7%) and Tchibo (6 %), according to Daviron och Ponte (2005) p 94 and D. Porras (2003) p. 95

<sup>&</sup>lt;sup>25</sup> Daviron and Ponte (2005) p. 78

<sup>&</sup>lt;sup>26</sup> Daviron, Ponte (2005) p. 145

loss even in exporting countries. Economic and theoretical models show that rent-seeking costs could potentially outweigh any gains from higher prices to exporting countries and actors within these. Directly unproductive behaviour could potentially have worsened the distribution of income within member exporting countries or have created waste that offset any international income transfer.<sup>27</sup>

Nevertheless, the ICA system and the regulated markets in producing countries created a relatively stable institutional environment where rules were relatively clear and changes politically negotiated.<sup>28</sup> Government intervention in domestic market was also prevalent. After the collapse of the last ICA in 1989, the opportunities for rent seeking came to an end and most parastatals were dismantled or their role was diminished.<sup>29</sup>

Since the abolition of the last ICA and the quota system the supply of coffee has increased drastically and international green coffee prices have decreased correspondingly. In addition, the mechanism that favoured stock holdings in producing rather than in consuming countries has been lost.<sup>30</sup> This has decreased producing countries' control over their exports and made actors in importing countries less vulnerable to drastic changes in international green coffee prices. When the coffee sector was liberalized most governments lost incentives to support national coffee producers and maintain their position on the world market.

Nowadays, commodity exporters face a number of entry barriers in consumer markets. However, the variation in trade restrictions is weakly correlated to the movements in spreads for commodities and countries.<sup>31</sup> Despite significant differences in trade protection between Europe, Japan and U.S. spreads have moved almost simultaneously across regions. Further, between 1975 and 1994 spreads of coffee prices increased by 85 percent while its effective rate of protection was on average 2 percent.<sup>32</sup> Experiences from liberalization of domestic coffee in East Africa suggest that market power of MNCs at the export level is positively correlated to the level of entry barriers.<sup>33</sup> Hence it is likely that the liberalization of the market opens up for more actors, which can benefit also local actors.

Compared to most other coffee producing countries Costa Rica has the advantage of being better developed, producers have better access to information and institutions are relatively well-functioning. Coffee production is performed by private actors only, but the

<sup>&</sup>lt;sup>27</sup> Bohman, Jarvis and Barichello (1996) pp. 379-404

<sup>&</sup>lt;sup>28</sup> See for example Dubois (2006) and Ponte (2001)

<sup>&</sup>lt;sup>29</sup> Dubois (2006) p. 4

<sup>&</sup>lt;sup>30</sup> Dubois (2006) p. 4

<sup>&</sup>lt;sup>31</sup> Commodities are: coffee, banana, sugar, rise, bread, gasoline, fuel and beef. Countries are: US, Japan, France, Italy, Germany and Canada. See Morisset (1997) p. 13 and annex C

<sup>&</sup>lt;sup>32</sup> See Morisset (1997) p. 13 and annex C

<sup>&</sup>lt;sup>33</sup> Daviron and Ponte (2005) p. 129

state monitors the national coffee value chain through ICAFE and regulates it by law. The law settles that the coffee provided by Costa Rican coffee growers to the processing plant is to be transferred on consignment and it also settles that the producers should receive advance payment for an important part of their harvest. The final minimum price is determined by ICAFE at the end of the season by the use of a cost model, often including a fixed profit margin for the coffee mills. ICAFE also have several national programmes for enhanced quality. Production of lower quality Robusta coffee is prohibited to increase quality and the market reputation of Costa Rican coffee.

#### 4. Structure of the Fairtrade Coffee Value Chain

In general only about 30 percent of total Fairtrade certified coffee production is sold to the Fairtrade market. Most Fairtrade producers sell a majority of their coffee to the conventional market. The input-output relationship and geographical framework for Fairtrade coffee is not much different from the relationship on the market for conventional coffee. This chapter focuses more on the institutional framework and less on the input-output relationship and the geographical framework.

#### 4.1 Geographical Framework

Fairtrade is an alternative governance structure, within which the transactions might feasibly be organized. Both the commodity chain and Fairtrade intend to connect consumers and producers across wide geographical distance. The implementation of a label has important implications for several actors and it can be used to transfer information. The certifier guarantees that the producer organisation and trader respect the set of predetermined criteria and the consumer thereby gains information about producer conditions and trade restrictions. The link between producers and consumers is strengthened.

#### 4.2 Institutional Framework- Exporting Country

There are 241 Fairtrade producer organisations in Africa, Asia and Latin America. Fairtrade producers are independent farmers who run their farms at their own financial risk but are organised in cooperatives, a democratic organizational form that within the Fairtrade coffee market integrates production, processing and exporting. Thereby the national coffee value chain is shortened and vertically integrated. Producers have information about, and are involved in, the entire national value chain. By being part of a cooperative Fairtrade certified producers shield themselves from changes in the national structure that affect producers especially hard. Vertical integration also facilitates division of risks and rents. As the small-scale producers are joined in cooperatives the possibilities increase to sell larger quantities and manage on time deliveries. This increases marketing and competitive advantages.

There is rich empirical literature dealing with the efficiency of cooperatives in relation to other organisational types.<sup>34</sup> Cooperatives can offer prospective advantages in indivisibility, risk-bearing and associational respects. Indivisibilities can be distinguished both as economy of scale of production and to economize on information costs, which often require a set up cost. Cooperatives allow for collective action and can in regard to its size be a stronger partner in bargaining situations. However, cooperatives have been perceived to be an inferior form of organization due to monitoring, horizon, common property, transferability and control problems. This might give rise to under-investments and relatively costly decision-making processes. Higher cost control when there are many principals having an incentive to free-ride on others is believed to make cooperatives less technically efficient: the ability to minimize input usage given a set of outputs or produce maximum output given a set of inputs.

Most cooperatives, Fairtrade included, do not integrate workers. One reason can be that Fairtrade focuses on small-scale farmers and that these are not assumed to hire workers. However, Arabica coffee has to be collected manually, only once a year, and even small-scale farmers can need to hire seasonal workers for the harvest. Fairtrade declares that labour rights have to be in accordance with the ILO and the national legal system, but focus has been on producer conditions and not to the same degree on worker conditions, leaving the workers behind.

#### The Costa Rican Example

In Costa Rica there are 7 producer organisations and 5 traders certified as Fairtrade operators.<sup>35</sup> In 1989 Coocafé was the first trader certified as Fairtrade in Costa Rica. Now Coocafé is a second level cooperative that consists of 9 first level cooperatives. The second level cooperative handles exporting, branding and marketing. The first level cooperatives are owned by producers and include production and processing of coffee beans. Belonging to a second level cooperative like Coocafé gives small cooperatives some of the advantages of the larger cooperatives. The Costa Rican cooperatives often provide extra services, such as agrotechnical advice and community shops. The premium of US cents 10/lb is used collectively by the cooperative for environmental or social (education, infrastructure etc) projects in the community.

See for example Williamson (1975), Porter and Scully (1987) Gereffi (1994) and Ronchi (2006)
 www-flo-cert.net

Mosheim (2002) states that cooperative mills in Costa Rica are less scale efficient than non-cooperative mills, but at least as technically efficient and effective when it comes to combine inputs in their cost minimizing proportions (allocatively efficient) as conventional profit maximizing firms. Mosheim further shows that cooperatives have helped to maintain a strong family based agricultural sector and that on average prices paid to producers in Costa Rica are higher from cooperative mills than from private firms, though cost structure for producers is not likely to differ between members and non-members of cooperatives. However, non-cooperative mills often have higher liquidity and can therefore afford to pay producers in advance. The advance payment often provide incentives for producers to sell to a non-cooperative mill, especially at the beginning of the harvest, due to financial need that is stressed by that Arabica coffee is only harvested once a year.

Cooperative mills can be less scale efficient because the cost of control increases rapidly with greater membership making the scale of operation less efficient, but cooperative mills are at least as technically and allocatively efficiently as independent firms due to vertical integration, decreased transaction costs and incentive of ownership. In Costa Rica coffee cooperatives vertically integrate various production processes, such as production, processing, transportation, quality measurement etc.

Ronchi (2006) shows that market power is exercised by some mills in Costa Rica and that it is a limiting factor in the Costa Rican market. Fairtrade does improve the efficiency of cooperatives by organizational support activities, thereby increasing the returns to producers. Ronchi (2006) also shows that in Costa Rica, producers selling to vertically integrated multinational coffee mills, Fairtrade mills and to some extent cooperative mills face lower producer price "mark-downs" compared with domestically owned non-cooperative mills that don't vertically integrate. This is in line with Mosheim's results that on average producers selling to cooperatives receive higher prices. It does however contradict the popular view that the increasing concentration of vertically integrated multinational firms accounts for a decline in producers' share of coffee returns, but is appealing as it is in line with economics of internal organisations. Multinational coffee mills, Fairtrade mills and other cooperative mills do at least partly integrate the production process and thereby decreasing transaction costs.

Labour costs are relatively high in Costa Rica compared to the other Central American coffee producing countries, and coffee producers don't manage to pay competitive wages to coffee workers in time of harvest. As a result there is a high demand for seasonal workers who cross the border to Costa Rica from Nicaragua and Panama. Many seasonal workers take a great risk crossing the borders and many women bring their children. Their wages and living

conditions are often well below average in Costa Rica, and since most immigrants from Nicaragua are illegal (without papers) they are not guaranteed any medical care or education. Further, Nicaraguan immigrants and indigenous populations from Panama are often target to racial discrimination. The cooperatives of Coocafé did not have any programmes to improve the working and living conditions for seasonal workers.

## 4.3 Institutional Framework- Importing country

The Fairtrade cooperatives mostly export to Alternative Trade Organisations (ATOs). Fairtrade gives the producers the opportunity to trade with buyers with ethical and moral concerns like Twin Trading, Equal Exchange and Tradecraft. The size and scope of ATO differ wildly. Some of them were founded by charities or religious groups (for example Gepa in Germany and Traidcraft in the UK), others are partly owned by certified cooperatives in producing countries (AgroFair in Netherlands, Equal Exchange in USA) and a third group is privately held. Further, some perform roasting in small scale, some in large scale and others not at all. During the first years of the 21<sup>st</sup> century a combination of consumer and shareholder pressure coupled with success of ATOs and small roasters that are marketing Fairtrade, resulted in the entrance to the Fairtrade market by large coffee roasters as Procter & Gamble and Starbucks.<sup>36</sup> These actors make it possible to increase Fairtrade in scale and they represent a potential growth opportunity. It is also favourable for Fairtrade that big international traders that can internalize the roasting stage enters the organization as smaller Fairtrade importers have received criticism for outsourcing the roasting stage. When some stages can't be controlled for it is perceived that Fairtrade looses its transparency and credibility. It has for example been reported that Fairtrade certified coffee has been roasted by companies that don't uphold collective agreements.

The importers often provide a variety of producer support activities in order to help producer groups to meet the quantity and quality requirements for export, not only to Fairtrade markets but also to conventional markets. Fairtrade also stresses the importance of long term commitments. Importers have to assure producer cooperatives that they buy for a longer period than only one season and importers must also enable advance of credit.

Mostly the importers, or ATOs, also stand for branding the product.

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<sup>&</sup>lt;sup>36</sup> Daviron and Ponte (2005)

## 5. Implications and Outcomes for Surplus and Income

This chapter looks at implications and outcomes of the structure of the coffee value chain. Special focus is put on how structure affects producer share of total retail price.

Producers only receive a small share of final retail price. This is not surprising as the final product is the result of a chain of activities, as shown above. Hence when buying a package of coffee in a retail store the price consists of rental costs and cost of personnel, packaging, branding, advertisement, distribution, transport, roasting, processing, production, collection, VAT and other taxes in consumer and producer country as well as import tax.

First, estimates of total surplus in exporting countries are presented and thereafter a comparison is made between producer prices and retail prices. An increasing gap between green coffee prices and retail prices is observed and possible reasons to the increasing spread in prices are discussed.

## 5.1 Surplus in Exporting Country

Below table 2 shows estimates of total surplus retained in Costa Rica and changes over time. Production costs for 2004/2005 are set as fixed (US\$ 69/100 lb), calculated by ICAFE (2004), and includes labour costs (including social costs), materials, transport and financial costs. Processing costs are both costs for exportation and costs of processing. Costs of exportation can be domestic transport costs and administration costs. State share is the export tax of 1.5 percent.

Compared to 1982 total surplus is lower in 2004/2005 due to higher production costs and a higher share to others, i.e. cost to FONECAFE (Fondo Nacional de Estabilización Cafetalera) of 4.75 and share to processing mill of 9 percent of export price. Production costs are likely to be higher because of increasing use of pesticides and fertilizers. On the other hand state share is remarkably lower. It is striking that producer share of international green coffee price shrunk from 20 percent in 1982 to 12 percent in 2004/2005.

Table 2: Estimates of the total surplus retained in Costa Rica and % of export price

	ca 1982	%	2004/2005	%
Export price	119,7	100	113,08	100
Production cost	49,9	42	69	61
Processing cost	18,1	15	13,65	12
Total surplus	51,7	43	30,43	27
Growers share	24,2	20	13,78	12
State share	27,5	23	1,7	2
Others' share	0	0	14,95	13

*Sources*: Figures for 1982 from Talbot (1997), figures for 2004/2005 from personal consultations with personnel at the economic department at ICAFE and producer cost information from ICAFE (2004).

Table 1 presented in chapter 3.3 showed that the number of producers has decreased drastically while the number of other actors such as processing factories, exporters and roasters had increased. This implies that the profits might be higher further down the national chain. These gains further down the chain seem to have encouraged new actors to enter the market.

At the same time the number of large processing factories decreased. This further proves that multinational coffee mills, Fairtrade mills and to some extent cooperative mills are able to pay higher producer prices, not because of their size but more likely because of benefits from vertical integration.

## 5.2 Comparing Export and Retail Price

According to Talbot's (1997) estimations an average of 20 percent of total income was retained by producers in the 1970s and 1980s, while the average proportion retained in consuming countries was between 53-55 percent. However, between 1989/90 and 1994/95 the share of total income gained by producers dropped to 13 percent, while the share retained in consuming countries surged to 78 percent.

General estimations for coffee made by Talbot (1997), updated by Kaplinsky (2004), are shown figure 2 and show a decreasing share of final retail price accruing to producing countries and producers.

100%
80%
40%
20%
20%
Vear

| value added in consuming country | transport costs and weight loss | value added in producing country | grower price

Figure 2: Percentage share of final retail price of coffee, world average, 1965-2003

Source: Kaplinsky (2004) p. 13

At the collapse of the ICAs the producing countries' share of total value declined from about 40 percent to about 20 percent. Even if since then producers have received a greater share of the proceeds accruing within the producing countries, their share of total proceeds in the chain has fallen. At the end of the ICAs producers and producing countries lost market and bargaining power as removing the quotas increased the production of coffee. In the 1980s Brazil went from producing 17 000 60-kg bags to producing 27 000 60-kg bags. In the 1990s Vietnam went from producing 1 390 60-kg bags to become the second largest coffee producer, increasing its production more than tenfold. Now Brazil, Vietnam and Colombia stand for more than half of all coffee production. At the same time consumer markets have stagnated and roasters have increased demand for low quality coffee. It takes time for coffee producers to change the production accordingly as coffee production is part of a culture in many villages and diversification requires information, new networks, technology and knowhow.

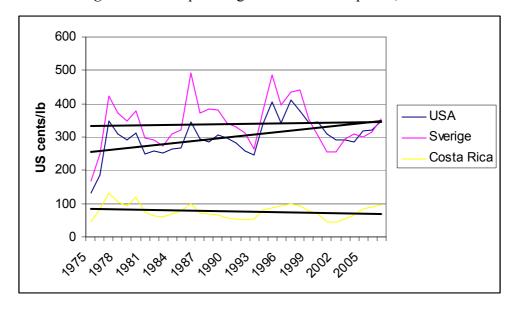


Figure 3: Prices paid to growers and retail prices, 1975-2007

Source of data: compiled from tables at ICO homepage:

In figure 3 Costa Rican growers' selling price is compared with retail prices in the United States, one of their main export partners, and Sweden, a smaller import country. We see that there is an increasing spread between producer prices and retail prices over time. Prices paid to growers and retail prices show a high degree of correlation, but the gap between the two has a tendency to widen over time. Though, while the trend is clear between Costa Rica and the US it is only marginal between Costa Rica and Sweden. The result is sensitive to the years included, though even during the nineties when export prices were rising, US retail prices on average increased slightly more than proportional.

Still Costa Rican shows a more modest gap between coffee prices in producing and consuming countries than many other coffee producing countries. This is because coffee producers in Costa Rica receive relatively high prices as they have more and better developed producer organizations, access to information technology and high quality coffee. Further, their access to credit is better and their technology is more advanced.

## 5.3 Changes in Governance and Structure

Morisset (1997) shows that the elasticity of transmission, in other words the percentage of variation transmitted from international prices to consumer prices, is on average three times higher when international green coffee prices are increasing than when they are decreasing. Adjustments in retail prices of consuming countries after spot market green coffee price

increases are reasonably quick, except in Japan and Germany. The adjustment to green coffee price decreases on the other hand is slow, exceptions being Netherlands and Germany.<sup>37</sup>

Producer and retail prices have shown an increased spread due to changes in structure of the coffee market. Prices started to drastically show an increased spread at the end of the ICAs and the quota system. The liberalization of the market resulted in a rapid increase of production and decrease in green coffee prices. Many producers did not have the information, capital or knowledge to diversify the production or to find employment in other sectors and their living conditions drastically deteriorated. At the collapse of the ICAs many governments lost incentives to support the coffee sector and some governments started to take levies instead of providing services to coffee producers.<sup>38</sup> If the government provides infrastructure and information it can have important implications for successful coffee production and diversification into other crops. It is also important that governments create advantagous macroeconomic conditions and a legal framework that is conducive for domestic and foreign firms, as this makes a difference for the coffee producer's number of alternatives and possibilities for diversification into higher value coffee and diversification out of coffee.

Since the turn of the century the demand for low quality Robusta has increased. Robusta coffee allows for more harvests per year, doesn't require manual collecting and thereby makes it possible to increase mechanisation of production and lower production costs. The decrease in prices around the turn of the century is striking, but as prices have recovered the highest value product has increased the least in price (22 percent), the middle quality products have increased almost twice as much (between 40-42 percent) and low quality Robusta has more than doubled its price (increase by 109 percent). This higher demand for low quality coffee has lead to a decreasing spread in prices of different types.

Roasters have become better at removing the harsh taste of Robusta coffee and are more flexible in their ability to switch between coffee types. 40 Roasters have been able to increase the quantity of lower quality coffee in blends due to consumers' imperfect information. Roasters have almost complete information about quality when they buy coffee, but release little information to consumers. This asymmetry of quality information has been used to roasters advantage and made it possible for them to increase margins through downgrading of quality. For example, since the early 1970s Italy has made a reconfiguration of blends, with lower quality Robusta being used in place of higher quality Arabica. When

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<sup>&</sup>lt;sup>37</sup> Pelupessy (2001) p. 7

<sup>&</sup>lt;sup>38</sup> Seudieu, interview 20070329

<sup>&</sup>lt;sup>39</sup> ICO figures (2008)

<sup>&</sup>lt;sup>40</sup> IADB, USAID, World Bank (2002)

prices for traded green coffee increased in the mid 1990s roasters downgraded the blend and retail price of coffee remained fairly stable. When the trend was reversed and prices for green coffee plummeted, blends were not upgraded again, as consumer response had not been reversed. 41 Consumers' lack of information represents a problem involving uncertainty for the consumer and results in consumer decisions that provide decreased levels of utility.

Nevertheless, the most frequent reason to increasing spreads mentioned by analysts is changes in structure of the market in importing countries and more specifically, increased concentration in the trading industry. 42 Morisset (1997) argues that international trading companies are most likely to influence the relationship between green coffee prices and consumer prices. Their strategic position in the value chain and the information they hold give them advantages over other actors.

Increased concentration in the trading industry has left the market characterized by fewer buyers of green coffee, while sellers in developing countries have remained many in number and stayed poorly organized. Due to poor infrastructure and information systems in many developing countries that export coffee traders can obtain monopsonist power, as the only buyer available to a seller or many sellers. As the monopsonist (or oligopsonist) is assumed to be profit maximizing, it will restrict the quantity purchased to affect the market price, causing to a market failure.

The concentration among roasters is even higher than among traders, though new actors are entering the market. 43 Pelupessy (2001) suggests that roasters are price setters, however downstream and not upstream as traders, thereby using their monopoly power as sellers to affect prices. From this view, pricing strategies of roasters are influenced by the relative market share of the brand (positively), times when, and places where, competition is unusually strong (negatively), the advertising per unit of sales of the competitors (negatively) and the prices of green coffee beans (positively). 44 Durevall (2001 and 2004) shows that price elasticity for coffee is low on the Swedish consumer market and that permanent change in prices only has a short-run effect on demand. Instead long-run evolution of coffee consumption per adult is determined by differences in preferences, for example across generations. Due to low price elasticity on consumer market roasters ca not influence demand with price or quantity and are not likely to use their monopoly power to decrease quantity demanded.

<sup>&</sup>lt;sup>41</sup> Daviron and Ponte (2005) p. 143f

<sup>&</sup>lt;sup>42</sup> See for example Kaplinsky (2004) and Fitter and Kaplinsky (2001) Morisset (1997) <sup>43</sup> Durevall, 2003 and Kaplinsky (2004)

<sup>&</sup>lt;sup>44</sup> Pelupessy (2001) p. 8

Larger roasters are very likely to gain from increasing returns to scale and this is even likely to be an entry barrier for new actors. However even larger roasters have faced increased costs. Processing costs have risen due to higher wages in processing facilities and improvements in the quality of the final product. 45 Costs have also increased due to increased demand for and use of low-quality coffee, which has forced roasters to come up with new blends and product innovations.

Roasters have also made strategic choices that have shaped entry barriers in different segments upstream. For example, roasters have set new requirements on minimum quantities needed from any particular origin to be included in a particular blend, which can be seen as an entry barrier to producing countries. Roasters have also been able to devise new technological solutions to be able to switch between coffee types easily and quickly and to be less dependent on any type of origin. This is contradictory to the minimum supply quantity and it is not clear which one of the two that has relatively more weight than the other, but both phenomenon have been observed and indicate a potential increase in roasters' ability to drive the global value chain for coffee.

In 1997 roasters started to apply the Supplier Managed Inventory (SMI) system and could thereby further improve their position. There are two interpretations of the adoption of SMI, one is that SMI allows roasters to minimize costs by transferring the working capital costs of inventory holding to trading houses and the other that roasting companies quoted in stock markets need to contain the size of inventories and of circulating capital within optimal parameters set by financial analysts. 46 This is as large inventories and a high ratio of circulating capital is normally interpreted as indicators of inefficiency.<sup>47</sup> Further, when roasters started the SMI system, carrying stocks was costly because future contracts were valued less than nearby positions and SMI increased terms of financial returns to roasters. SMI has prompted international traders to get more involved in producing countries and the system increased stocks that are readily available, which decreases impact for roasters of negative supply shocks.

There is also a growing concentration in the grocery retail sector. Between 1998 and 2000 the market share of the five largest chains in the US increased from 27 percent to 43 percent. In the EU food processing industry the three largest firms in Sweden have on average a concentration ratio of almost 70 percent of the market, while in Germany the respective rate

 <sup>&</sup>lt;sup>45</sup> Morisset (1997) p. 14, 23f
 <sup>46</sup> Daviron and Ponte (2005) p. 94

<sup>&</sup>lt;sup>47</sup> Gibbon and Ponte (2005)

is only 5 percent.<sup>48</sup> However figure 3 shows that spread in export prices and Swedish retail prices are relatively small.

Coffee on the consumer market is being increasingly differentiated and symbolic attributes (such as trademarks) are becoming more important. Further, in-person service quality is becoming almost equally important as material coffee quality. Hence, one reason to why producers' share of final retail price is decreasing is that raw-material represents a smaller share of final consumer price. Rents for an increasingly differentiated products accrues in consuming countries as that is where the value is added.

<sup>&</sup>lt;sup>48</sup> Kaplinsky (2004)

# 6. Implications and Outcomes on the Fairtrade Coffee Market

Fairtrade is based on partnership between producers and so called alternative trade organizations, such as Twin Trading, Oxfam Trading and Equal Exchange. Fairtrade presupposes that the national value chain is vertically integrated, since producers have to be organised in cooperatives that vertically integrates the production, processing and exporting. This makes Fairtrade producers' share of surplus in national coffee value chain larger than the share of producers' of conventional coffee. However, this is not necessarily the case for producer share of final retail price, including the international coffee value chain. In the United States Fairtrade certified coffee is often as much as twice as expensive as conventional coffee and ten percent more expensive than gourmet coffee. 49 In Europe the price differential is smaller but can still be substantial and unproportional to the premium received by producers.

Why is the retail price of Fairtrade coffee substantially higher than coffee in general when the export price is only a few cents higher?

#### 6.1 Impact of Price Floor and Premium on Producers

The Fairtrade minimum price and price floor increase income to producers, which can be a matter of subsistence when producer prices are low. Fairtrade works to improve producers' profitability by increasing the producer income directly through the minimum price of US\$ 1.25/lb and the social premium of 10 cents/lb. The minimum price decreases volatility.

After the abolition of the ICAs producer prices became more volatile. Still, the degree of annual volatility on the coffee market appears to be 2½ and 3½ times higher for US' and Swedish retail prices respectively than for Costa Rican producer prices. 50 However, it is more difficult for producers to adapt to rapid changes in prices than it is for actors in importing countries. This is because producers have fewer saving, poorer access to credit and because exporting countries in general have poor safety nets. The increased volatility makes the coffee

<sup>&</sup>lt;sup>49</sup> For examples see <u>www.peapod.com</u> for Giant's selection of coffee beverages.
<sup>50</sup> Own estimation based on ICO indicator prices.

producers more vulnerable, combines the coffee sector with greater risk and results in poorer conditions for investments.

The importance of stabilising prices is stressed by developing countries, like for example Burundi, Rwanda, Benin and Nicaragua, that are heavily dependant on the export of coffee and are vulnerable to price shocks. Drastically reduced export prices for green coffee affect growth, terms of trade and balance of payments. Vakis, Kruger and Mason (2004) assess the impact of the negative income shock for coffee producers in Nicaragua during 1998-2001. During this period extreme poverty in Nicaragua on average decreased by 47 percent and enrolment rates at both the primary and secondary levels increased. However, in coffee growing areas extreme poverty increased by 5 percent, primary enrolment rates fell and secondary enrolment rates hardly changed. Furthermore, in coffee growing regions the malnutrition of children younger than 5 years increased. Vakis, Kruger and Mason (2004) tested the question of self-insurance and consumption smoothening among coffee households and found that more than 14 percent of an income shock is passed onto current consumption. Coffee households were found to be the most vulnerable to fall into poverty and the least likely to exit poverty by taking advantage of the overall growth in rural areas over the period.

The Fairtrade price premium is invested in producer and producer organization support, for example to finance credit to producers, improve schools and roads or increase organic fertilizers in production. Coocafé divides half of the premium among the nine cooperatives and the other half is distributed to the cooperatives in ration based on their average volume of production during the last three harvests. 30 percent of the premium goes to a capitalization fund from which the cooperative can borrow and the rest goes to a producer fund. 11 Coocafé has also established two foundations financed by the social premium: Hijos del Campo (Children from the Countryside) and Café Forestal (Forrest Coffee). The first foundation mentioned finances scholarships and investments in rural schools and educative infrastructure. The latter foundation mentioned finances shade grown coffee, organic fertilizers and training. Shade grown coffee is grown in shadow of trees and results in a more diverse environment that is more bird-friendly, bio-diverse and it improves soil condition.

On the other hand, the minimum price can have some unwanted effects, augmented by for example the problem of asymmetric information, when the buyer and the seller of goods have different "asymmetric" amounts of information, most often about the quality of the product. Since Fairtrade guarantees the producer that he/she can sell a certain quantity and at

<sup>&</sup>lt;sup>51</sup> Ronchi (2001) p. 7

a certain price, the producer can choose to sell the coffee of lowest quality to the Fairtrade market. Further, since the producer is guaranteed a minimum price he/she only have incentives to upgrade the product when marginal gains from upgrading are equal to marginal cost of upgrading. Marginal gains from upgrading are lower with a price floor as it narrows the price premium for quality improvements.

The most important objection to Fairtrade is that Fairtrade hinders diversification out of coffee as the price floor and the price premium decrease producer incentives for diversification. Diversification, out of coffee or into higher value coffee, is essential if producer prices are to increase and the most important factor for keeping producer prices above subsistence level.

In the short term Fairtrade slows down diversification, though in the medium to long term Fairtrade supports sustainable diversification by providing information, facilitating access to credit and reducing risk by guaranteeing a minimum price. By allowing a more stable income to producers Fairtrade makes it possible for producers to explore alternative income generating projects.<sup>52</sup> Fairtrade increases predictability for producers and better conditions for investments.

This is in line with Poulton's (2006) discussion that it is easier to diversify from a position of strength (buoyant revenues for reinvestment) than of weakness. Moreover, many of the factors that currently hinder agricultural export performance (e.g. poor road and port infrastructure, high cost of finance, overvalued exchange rates) will also hinder efforts of diversification. These therefore need to be addressed anyway. The social premium can be used to finance local improvements though for major changes public investments are often required.

In Costa Rica diversification out of coffee and into higher value coffee has already started. Since the average age of coffee producers is high (53 years old) it is likely that the most significant step towards diversification out of coffee will be taken by the next generation, which often rather works in the cities than on the countryside and in the tourism or manufacturing industry rather than with agriculture.

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<sup>&</sup>lt;sup>52</sup> Tuvhag (2007). Above analysis is made on the Costa Rican context and the effects of a price floor may be different in other countries. Price floor is set equal to average production costs and basic needs and is the same for all Fairtrade producers in all countries, while cost of living in Costa Rica is among the highest in coffee producing countries.

#### 6.2 Price Composition

Table 2 in chapter 5.1 showed estimates of total surplus retained in Costa Rica and it was showed that growers' surplus of export price had decreased from 20 percent in 1982 to 12 percent in 2004/2005. In 2004/2005 international green coffee prices were below the Fairtrade price floor, hence Fairtrade export price was equal to US cents 126/lb. Fairtrade growers were left with 21 percent of the surplus of export price, double the share of the average grower at that time and almost equivalent to the share of the average grower in 1982. The result is based on the assumption that production and processing cost on average are the same for non-Fairtrade as for Fairtrade producers and processing mills. This is perceived to be reasonable considering that Mosheim (2002) states that cooperatives are at least at allocatively and technically efficient (though less scale efficient) and the results by Ronchi (2006) which indicates that Fairtrade improves the efficiency of cooperatives. Further, costs are not likely to be higher for Fairtrade producers since they are small-scale farmers and thereby are less likely to hire labour than non-Fairtrade producers. Fairtrade producers are also likely to use less and not more pesticides and fertilizers than non-Fairtrade producers due to the work within Fairtrade to increase environmental consideration and actions to improve the environment.

Table 3: Estimated price composition of coffee value chain: Costa Rica- USA, 2007

	Conventional coffee		Fairtrade coffee	
Consumer price	498	100	1009	100
Wholesale and retail margin	76,36	15	205	20
Roasting, storage, transport,				
& finance, advertising	291	58	670	66
FOB price Costa Rica	129,97	(26)	134,97	(13)
Export costs including taxes	3,6	1	3,6	0
Processing, transport, finance	22,3	4	22,3	2
Cost FONECAFE	4,75	1	4,75	1
Producer price	99,32	20	104,32	10

Source: own compilation with prices and costs in producing country from ICAFE (2008) and from conversations with Ferreto Gomez, consumer prices are advanced guesses of the author, wholesale and retail margin is assumed to be 15% for conventional coffee and about 20% for Fairtrade coffee according to Daviron and Ponte (2005).

Unlike in 2004/2005, international green coffee price for conventional coffee in 2007 was above the price floor. Hence in 2007 the difference in export price between conventional coffee and Fairtrade coffee was only the Fairtrade premium of 5 cents. Fairtrade producer share of export price was 77 percent, compared with producer share of general export price which was 76 percent. However, taking costs into consideration, and assuming costs were unchanged between 2005 and 2007, Fairtrade producer surplus in 2007 was 26 percent of Fairtrade export price, 3 percent higher than the surplus retained by the producer of conventional coffee and 5 percent higher than in 2004/2005. The difference in income, over time and between Fairtrade and non-Fairtrade coffee, results from increasing prices in general but proportionately less for Fairtrade coffee due to the price floor.

Looking at the whole picture in table 3, including actions and actors in importing countries, the relationship between Fairtrade and share to producers is reverse. Taking the whole chain into consideration the Fairtrade producer only receives about 10 percent of consumer price, half the share received by producer of conventional coffee. Inefficiencies downstream the Fairtrade coffee value chain make the share to Fairtrade producers small.

The reasons to the large share of income to Fairtrade actors in importing countries could be many, for example incomplete competition, higher costs and less incentives to increase efficiency than non-Fairtrade actors in importing countries. Costs could be higher due to size, since many Fairtrade importers are relatively small, or because the roasting stage has to be hired from another firm. If the firm is not profit maximizing, but instead using the surplus to programmes for producers, incentives to increase efficiency can be low. The price floor and the price premium can be used to justify an unproportionate high consumer price. Further, Fairtrade can be used to find price insensitive consumers and inefficient firms can survive on the market as the higher price is compensated by the label. Fairtrade coffee products do not compete with other coffee products with price, but with a differentiated product. Though, as the number of Fairtrade brands continues to increase, competition will increase correspondingly, and is likely to increase efficiency even in importing countries.

## 6.3 Willingness to Pay for Fairtrade Products

Basu and Hicks (2007) show that for a majority of consumers, the willingness to pay for Fairtrade labelled coffee first rises and then falls for both increased producer participation and increased income guarantee. This is because, on one hand, aversion to poverty leads to an increase in the willingness to pay as both the scale (participation) of Fairtrade program and

scope (income) of Fairtrade producers increase while on the other hand, concern for relative deprivation of poor producers not yet included by the program leads to a decrease in willingness to pay.

Coffee for consumption is made up of blends, often from different regions in the world, and mostly the country/countries of origin are not mentioned on the package and even less so the scale of Fairtrade programmes or scope of growers. Hence, just as mentioned by Basu and Hicks (2007), in reality lack of information makes consumers base their willingness to pay on perceived rather than true impact of the label on its target. Other factors may influence willingness to pay for Fairtrade labelled coffee, such as label transparency, credibility of Fairtrade standards and indirect effects of Fairtrade (from increased access to credit, long term agreements, investments in social programmes etc). Not mentioned by above authors, but nevertheless important, is that consumers may take into account indirect impact on established non Fairtrade organisations and the structure of the market. Consumers may use consumption as a political act aimed at changing practices used by large actors in consuming countries. The consumption of a Fairtrade product can also be part of a consumer identity.

# 7. Vertical Integration

Vertical integration, in other words to control different aspects of the value chain, involves both problems and benefits. The most important reason for placing technologically separable production units under common direction is internal gains from lower transaction costs. Vertical integration lowers transaction costs as search and information costs decline when it becomes easier to synchronize supply and demand along the value chain. Common direction over separable production units also lowers bargaining, policing and enforcement costs.

Oliver E. Williamson (1975) identifies a set of environmental factors which together with a related set of human factors explain the circumstances, under which complex contracts are costly to write, execute and enforce and transactions ought to be carried out within a firm instead of across markets. Three cases are mentioned when vertical integration in relation to market transactions has advantages and is likely to economize on decision-making and transactions:

- Uncertainty and bounded rationality.
  - If for example neurophysological, language or technology limits prevail and at the same time it is very costly or impossible to identify future contingencies and specify ex ante appropriate thereto.
- Opportunism and small number exchange conditions.
  - If lack of candour or honesty in transactions takes place to include self-interest seeking and to make allowance for strategic behaviour, and at the same time a small numbers condition prevail, contracting is both costly and risky.
- Information impactedness and opportunism/bounded rationality.
  - If true underlying circumstances relevant to the transaction, or related set of transactions, are known to one or more parties but cannot be discerned without costs or displaced for others and is combined with opportunism or bounded rationality.

Williamson also mention some objections to vertical integration such as the risk of incomplete contracting with informal enforcement, use of the organizational form to

circumvent regulation and use of vertical integration, together with an appreciable degree of market control at one stage of the production process, to excess price discrimination and increase entry barriers to potential rivals.

## 7.1 Vertical Integration on the Coffee Market

The coffee market is characterized by bounded rationality (for example language and technology limits) and thereby when the sequential spot market is hazardous internal organization facilitates adaptive, sequential decision making and thereby economizes on bounded rationality. In an internal organization efficient codes are more apt to evolve and be employed with confidence by the parties, of importance when bounded rationalities due to language limits prevail.

Opportunism is no problem on a market where competition among large numbers of bidders take place as the opportunistic inclinations will render ineffectual. However, the high concentration among traders and roasters can provide a problem of small numbers. Faced with present or prospective small-numbers exchange relations internal organization serves to attenuate the problem. Internal organization enjoys advantages, in relation to autonomous contractors, as the parties to an internal exchange are less able to appropriate subgroup gains at the expense of the overall organization, as a result of opportunistic representation.

Asymmetric information (for example regarding quality) is a problem when the holder behaves opportunistically and is of special concern in small numbers bargaining. Since the coffee market is increasingly characterized by small numbers, internal organization can curb opportunistic use of asymmetric information.

However, there can be a risk of vertical integration in the coffee market if large roasters vertically integrate and use their position to provide entry barriers, for example in case of scale, and thereby uses vertical integration to further strengthen their market position and bring forth uncompetitive behaviour. There is a risk that vertical integration on the coffee market is used to circumvent regulation.

Despite the benefits that can be obtained from vertical integration and the relatively small disadvantages in the coffee market for implementing vertical integration, coffee market integration of producing country activities and consuming country activities is rare. In the exporting country integration of production and processing stage occur and so does integration of processing and exporting. However, the most common structure is to have independent actors.

In consuming countries the major coffee traders work closely to roasters while remaining independent from them. This is likely to be because roasters gain most from branding and thereby few advantages can be obtained by further integration upstream. By not vertically integrating the whole chain rosters can shield themselves from responsibility and criticism about conditions in nodes upstream. The requirement to guarantee roasters a steady supply of coffee from a large number of origins has, however, driven increased vertical *coordination* between traders and exporters.<sup>53</sup>

## 7.2 Vertical Integration on the Fairtrade Market

Fairtrade is an alternative governance structure within which transactions can be organized. The implementation of a label introduces a radical change to producers in relation to the enterprise buying their product. Since the certifier guarantees that the producer organisation (and trader) respect(s) the set of predetermined criteria,<sup>54</sup> product control is replaced by control of production and process methods. Fairtrade facilitates hierarchical transactions, a sort of subordination still prevails but traditional formal hierarchical relations are less prevalent.

Fairtrade vertically integrates the national coffee value chain in producing countries. Small-scale producers are organized in cooperatives, through which they own the processing mill where the coffee berries are peeled, washed (or sundried in case of the wet process) and dried. The producer cooperative also stands for export and marketing of the Fairtrade coffee. Fairtrade improves information sharing by enabling vertical integration in the producing countries and with the use of the label information is transferred from producer to consumer. By being part of a cooperative that integrates production, processing and export of coffee risk is shared by all actors and producers, processing mills and exporters reduce the risk of changes in the national structure that affect their activities in particular.

While Fairtrade presupposes vertical integration of production in producing countries, little attention has been put towards workers conditions and workers are not an integrated part of the production process. In general workers' conditions are much poorer than producers' conditions, but Fairtrade does not affect workers living or working conditions noticeably.

The importer of Fairtrade coffee has to be Fairtrade certified in order to brand the finalised coffee as a Fairtrade product. A single administrative unit spans both sides of the transaction but there is no common ownership. The certification acknowledges many of the

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<sup>&</sup>lt;sup>53</sup> Poulton (2006)

<sup>&</sup>lt;sup>54</sup> The criteria for Fairtrade producer organisations and traders can be found in annex 1.

problems mitigated by vertical integration, for example certification decreases search and information costs as the importer knows that the supplier has to fulfil the Fairtrade standards. Common standards increase trust between actors and also lower bargaining, policing and enforcement costs. However, many Fairtrade importers are profit-maximizing agents and put the profit of the own organization before the total profit of the whole chain. Results in chapter 6 indicate that Fairtrade does not bring division of rents.

The roasting stage of the coffee production can be performed by a non-Fairtrade certified actor. The reason is that Fairtrade certified actors often lack the capacity and that the Fairtrade volumes often are too small for roasting to be affordable in roasting factories excluded for Fairtrade coffee.

It has been reported that workers on coffee fields belonging to Fairtrade producers and workers in roasting factories processing Fairtrade coffee have been working under socially unacceptable working conditions. It can be seen as a failure to Fairtrade not to be able to integrate and control the whole value chain as it can signify an obstacle to transparency and can result in loss of consumer trust.

The general risks of vertical integration are likely to be smaller for Fairtrade coffee than on the market for conventional coffee. This is because Fairtrade still only represents a small fraction of the market. The risk of circumventing regulation is small as Fairtrade actors are more committed to strengthening contracting procedures and law enforcement than to weakening it, in fact the latter could provide a great risk of its credibility.

### 7.3 Producer Initiatives

To increase producers' share of total value and to add value, producers must develop downstream supply chain linkages and pursue promotion strategies that will benefit their coffee comparative advantages. Possible ways to achieve this could be to reduce intermediation and dependency on middlemen, to organize producer groups and associations that could work directly with retailers, by capturing geographical indicators of origin, by marketing or by developing brand recognition.

Many producer cooperatives have already taken similar initiatives. For example, Coocafé aims at controlling the whole value chain and want to export a finalised product. So far roasted coffee represents only a marginal share of exports by Coocafé and entry barriers are many to the consumer market in importing countries. Import tariffs for roasted coffee are much higher than for green coffee, for example the European Union has a zero tariff and VAT

on coffee as an intermediate product (i.e. green coffee) and a 7.5 tariff and VAT on coffee as a finalised product (roasted coffee). Information cost, product design, advertising and advanced supply management systems set further entry barriers. Language and culture can also limit opportunities. It is also difficult for producer organizations to compete on consumer markets in Europe or US since established actors often have scale advantages and years of experience to create brand recognition and reputation. They also have increased access to credit and contact networks. Success further requires information about consumer preferences as quality requirements, blend preferences, water used for brewing etc. can be remarkably diverse in different countries.

Nevertheless, Fairtrade shows that producer initiatives should not neglect actors in importing countries if producer share of final retail price of traded coffee is to improve.

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<sup>&</sup>lt;sup>55</sup> See ICO (2007)

### 8. Conclusions

#### Coffee Market

Coffee is one of few agricultural commodities dominated by small producers. These producers predominantly live in rural areas in developing countries, they often lack access to credit, safety nets and do not perform other income generating activities. The producers can not shield themselves from negative income shocks and are vulnerable to rapid changes in prices. Around the turn of the century green coffee prices were low and many producers lived on subsistence level. However, while green coffee prices and prices paid to growers have shown a decreasing trend, retail prices of coffee have increased.

There is an increasing spread in green coffee prices and retail prices due to:

- Increased supply from Vietnam and Brazil (negative effect on green coffee prices)
- Increased demand for low quality coffee (negative effect on green coffee prices)
- Traders strong position on the market (positive effect on retail prices)
- Increased symbolic and in-person quality attributes to coffee sold in importing countries (positive effect on retail prices)

#### Fairtrade Market

Fairtrade is a sustainable certification in three ways. First, it promotes environmental sustainability. This can be seen in Costa Rica through Coocafé's various programs to improve reforestation and natural fertilizers, and decrease the use of strong chemicals. Second, it promotes social sustainability by allowing for investments in education, infrastructure, public goods etc by the use of the social premium. Third, it also promotes economic sustainability through securing the livelihood of certified producers.

Fairtrade improves producer conditions. The Fairtrade price floor and price premium is a way to increase producer income. In the short term it decreases producer incentives to diversify production out of coffee and thereby can slow down the increase in producer income for competitive producers. In the long run the price floor decreases the fluctuation in prices

received by certified producers and in so doing increases predictability and improves opportunities to explore other income generating projects.

### Fairtrade challenges

The idea behind Fairtrade is that by shortening the coffee value chain and cutting out middlehands the share of final retail price that accrues to producers shall rise, without consumers having to pay a higher price. Producers gain from vertical integration of the national coffee value chain in producing countries. However, Fairtrade retail prices are above prices for conventional coffee on most markets and Fairtrade producers earn a smaller share of final retail price than non-Fairtrade producers. This reflects Fairtrade inefficiency downstream the coffee value chain. It is also partly a result of that Fairtrade importers don't have the same scale advantages as the main actors on market for conventional coffee, further some importers do not have capacity to roast the coffee and have to outsource the activity to conventional actors. It is also likely that Fairtrade is used to find price insensitive consumers. The greatest challenge for Fairtrade actors is to decrease consumer prices for Fairtrade coffee and to gain control over the whole commodity chain. The last mentioned is also important for the transparency and credibility of the label. Fairtrade focuses on improving producer conditions, but by doing so they have lost control over other nodes of production. Fairtrade does not guarantee the rights of other vulnerable groups along the value chain. For example, Fairtrade can't guarantee that Fairtrade coffee collectors in producing countries work under "fair" conditions (standards only state that workers should receive payment in accordance with national laws) and neither that collective agreements are uphold in all stages in importing countries (for example when the roasting stage is performed by non-Fairtrade actors). For the future of Fairtrade the organization has to work to control all aspects of the value chain.

It is the price stabilisation mechanism together with organizational support and access to credit and information that constitute the most important factors for diversification opportunities in the long run and not the price premium per se. Therefore, a more appealing alternative than the current Fairtrade system would be to use the Fairtrade price mechanism as insurance. Producers could still be guaranteed a price floor, but instead of paying a fee of certification they could pay a negative "premium" of for example 10 cents/lb, when prices were above minimum price. The negative "premium" would be returned to producers when prices were below an indicated level. This would decrease exclusion because of the certification fee and it is likely that consumer prices would decrease. Further, Fairtrade would no longer be used to find price insensitive consumers. The current risks of asymmetric

information and moral hazard would still be present but be no greater during an insurance system than during the current Fairtrade system.

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## Interview:

Sedieu O. Dennis	Chief Economist, ICO	2007-03-29
Ferreto Gomez, Alvaro	Manager, Coocafé	2006-12-04

## Annex: Fairtrade Standards

Generic Fairtrade standards for small farmers' organizations concern labour conditions and social, economic and environmental development. The standards state that:<sup>56</sup>

- Fairtrade should make a difference in development for certified producers. Fairtrade revenues should be shared based on a democratic decision taken by the beneficiaries and be used to promote social and economic development.
- The majority of the members of the organization should be small scale producers, not structurally dependant on permanent labour, managing their farm mainly with their own family's labour-force.
- The organization must have a democratic structure and transparent administration, which enables an effective control by the members and its Board over the management, including the decisions about how the benefits are shared. Further, no discrimination can take place regarding membership or participation.
- The organization should follow ILO Convention 111 and as far as applicable extend the principles to members of organizations. The convention rejects any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation.
- The organization should have the commitment and capacity to administer the Fairtrade Premium in a way that is transparent for the beneficiaries and FLO. Decisions on the use of the premium should be taken democratically by the members.
- The organization must have export ability, ie logistics and communication must be in place, there must exist demand for the producers' Fairtrade product, the organization must have experience in commercialisation of the product and be able to prove that it meets current export quality standards.
- The producers' organization ensures that its members protect the natural environment and makes environmental protection a part of farm management. The organization is

<sup>&</sup>lt;sup>56</sup> FLO. 20071217

expected to assess the environmental impacts of its members' operations, to develop plans designed to mitigate those impacts and to monitor the implementation of those plans. Producers are expected to continually reduce the volumes and types of agrochemicals used in production to the maximum possible extent and reduce, reuse, recycle and compost waste in a manner that is appropriate to the materials in question. Producers are further expected to maintain and enhance the fertility and structure of soil and manage water resources with the objectives of conservation and noncontamination.

• The organization should follow the ILO Conventions 29, 105, 138 and 182 on child labour and forced labour. Forced or bonded labour must not occur.

The Generic standards for traders are currently under development. However, trader standards have for a long time stipulated that traders that buy directly from the Fairtrade producer organizations must:<sup>57</sup>

- Pay at least Fairtrade Minimum price to producers.
- Pay the Fairtrade Premium.
- Partially pay in advance.
- Sign contracts that allow for long-term planning and sustainable production practices.

<sup>&</sup>lt;sup>57</sup> www fairtrade net