

Thesis Master International Development Studies

Who pays the price?

How the price of UTZ Certified and Fairtrade coffee is shaped by certification costs and consumer preference



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PREFACE

This thesis has been written to fulfil the graduation requirements of the Master International Development Studies (MID) at the Wageningen University. It was conducted under the supervision of the Development Economics Group.

Conducting this research was a challenging process. In the first place due to its focus. The large number of studies on certification required a broad and deep understanding of the certification process and dynamics. Combining and criticizing these studies formed an important aspect of this research; a challenging but instructive process. The second reason why writing this thesis was challenging is due to a long period of illness, which stretched this research over a long period. Therefore finalizing this thesis feels like an important milestone, both in my academic and personal life.

This could not have been done without the help of a considerable number of people, of whom few I would like to thank specifically. In the first place the supervisor I started this research with: Kees Burger. I am grateful for the many interesting discussions on certification as well as his never ceasing encouragements. Due to his personal situation he was unfortunately not able to provide supervision until this research was finished. This task was taken over by Rein Haagsma, the second person I would like to thank for his extensive help. I am especially grateful for his help in the theoretical part of this thesis. He was able to address the economical theorist in me of which I never thought I had it in me. Under his supervision this research has become more academically solid, which provided me with a greater sense of satisfaction. A special thanks also to my good friend Richard Ruitenburch, who helped me enthusiastically with the algebraic part of the theory.

The most special thanks is aimed at my wife Monique. Without her never ceasing support and love, I would have never been able to finalize this thesis. Our lively conversations on the issues of certification have helped me extensively and have brightened my mind. Also my parents deserve a particular note of thanks: your encouragements and support have been invaluable, as ever.

I hope you enjoy your reading.

Benjamin Jongenburger

Wageningen, March 25, 2016

ABSTRACT

This thesis focusses on how the price for UTZ Certified and Fairtrade coffee is influenced by certification costs and specific consumer demand. As a theoretical perspective the theory of monopolistic competition is used to understand the dynamics of supply and demand in the light of certification costs and specific consumer demand. This also includes a numerical example to enlighten the influence of changes in costs and consumer preference on consumer price, and market size and efficiency. Subsequently real data on certification costs is provided together with an overview of the factors that shape consumer preference. The results show that data on certified costs are highly incomplete due to lack of transparency by both supply chain actors and certification agencies. It is highly likely that end chain actors, such as roasters and retailers, use consumer preference for certified coffee as a means to differentiate their product, increasing mostly their own profits. The initial objectives of certification will therefore benefit from an increase in chain transparency.

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CHAPTER 1: INTRODUCTION

1.1 THE EMERGENCE OF CERTIFICATION SYSTEMS

Coffee has been one of the most popular beverages of the past century. It is one of the most traded agricultural commodities on the world market and this market is still growing. Most of its history coffee has been a largely unsegmented commodity, meaning there was little choice for consumers when it came to types and brands. The last few decades the coffee market became increasingly differentiated, with consumers demanding higher quality coffee and producers being able to supply this. Knowledge on coffee production grew steadily leading to higher quality coffee. But since about two to three decades not only sensory quality of coffee became more important, but also how the coffee was produced. The increasing attention for the 'Third World' and its problems slowly drifted towards production systems which originated in these areas. Coffee is mostly produced in developing countries, hence the attention for its production. Consumers started demanding coffee, not only of higher sensory quality, but also ethical quality, without harming the environment or the use of child labour, slavery, abuse etcetera.

There is a difficulty with providing the ethical quality, since it is not directly visible in the product itself. Therefore this type of quality is considered a so called credence quality; it depends on credence instead of easy to measure physical product attributes. In order to ensure the credence quality, a system is required that monitors and checks every step of the production process. The past few decades have seen the emergence of several of these systems in various production chains. The coffee sector alone is already good for at least half a dozen worldwide certification systems, such as Fairtrade, UTZ Certified, Rainforest Alliance, Bird friendly, Shade Grown and 4C. These systems differ in focus and magnitude, but the operation mechanisms are mostly similar. They have penetrated conventional markets considerably, leading to the current situation in which it has become difficult to find a product which is not certified. The coffee market is more differentiated than ever.

Academic literature is becoming increasingly focussed on these certification schemes. Overall these studies can be placed in roughly two categories. The first category contains studies focussed on the effectiveness of certification schemes, so whether they deliver on their specific claim of providing environmental, social or economic benefits. The existence of these schemes is justified by the extent to which they succeed to provide and maintain the credence quality. If they do not live up to their standards there is no reason for consumers to buy their produce. The second category consists of studies which try to gain insight into the consequences of certification for markets, producers and consumers. Since certification is rather young and still

growing, there is an increasing need to find out how markets and their actors respond. This study takes its place in this second category.

1.2 RESEARCH AIM AND QUESTIONS

The certified coffee market is a relatively new market which differs from the standardized market in several ways. As a consequence of these differences the final price of the coffee differs. This has two main reasons. The first reason relates to the increased costs that are involved in certification. Additional costs, compared to a 'standard' market, will likely cause a change in incentives and therefore both consumer and producer behaviour, leading to a different price. For the coffee market there has been some research focussing on the latter aspect (such as Valkila, Haaparanta, and Niemi (2010)), but it seems yet unclear to what extent the costs are represented in this pricing. It is not very clear which costs are involved in the certification system and how the final price is affected by those costs. The second reason why the way in which the coffee price in the certified market differs is because consumer preference is different. Consumers of certified coffee are influenced in other ways and by other product attributes than consumers in the standardized market.

The aim of this research is to increase insights in how the price of certified coffee is formed, especially in the light of certification costs and specific consumer preference. Supply is influenced by the costs of certification, while demand depends for certified coffee is shaped by the specific consumer preference. This has led to the following research question: what are the effects of certification costs and changes in consumer preference on how the price for certified coffee is formed?

The approach to answering this question consists of several different elements; together they provide an answer on the main research question. These elements, which also provide the basic structure for this research, are structured as the following sub-questions:

- Which economic perspective is useful for analysing the underlying market dynamics of the differentiated coffee market and how it can be used?
- How do the costs of certified coffee affect the supply chain at different levels and how high are these costs?
- How is consumer preference for certified coffee shaped and how does it influence demand?

This research focusses on two different cases in order to approach the research question, namely Fairtrade and UTZ Certified. Fairtrade was founded in 1988 in the Netherlands under the name 'Max Havelaar'. The aim of the certificate was "to improve the livelihoods and well-being of

small producers by improving their market access, strengthening their organizations, paying them a fair price, and providing continuity in trading relationships (Giovannucci & Koekoek, 2003, p. 38). After a few years the Fairtrade initiative crossed borders and it grew slowly until 2002 when the umbrella organisation named Fairtrade International was founded. During the last decade the estimated retail sales of Fairtrade certified products grew from 1.1 billion in 2005 to 5.5 billion euros in 2013. The amount of coffee sold as FT (including Fairtrade Organic) grew to around 84,000 MT of green coffee, which is a growth of 350% compared to 2004 (FLO, 2006, 2015). The other certification scheme is UTZ Certified, founded in 2002 by the AHOLD coffee company (originally named UTZ Kapeh, but renamed in 2007 as UTZ Certified). UTZ focusses mainly on coffee, while Fairtrade is still bringing more products under its umbrella. UTZ sold 21,000 MT of green coffee in 2004 and in 2012 this amount had grown by a staggering 900% to 188,000 MT in 2012 (Alliance & Certified, 2010; UTZ-Certified, 2012-02; Utz-Kapeh, 2006).

Together UTZ Certified and Fairtrade account for most of the certified coffee in the worldwide coffee industry, which makes them decent examples to be used for analysis in this research. By focussing on their structure and how they attach to the existing coffee supply chain, certification costs can become less opaque.

1.3 RESEARCH STRUCTURE

This research is structured as follows: in Chapter Two an outline is provided of the research conducted so far on certification costs. This is followed by a theoretical analysis of the certified coffee market using the theory of monopolistic competition. Chapter Three provides an empirical analysis of how the costs of certification differ from costs in the standard system, combined with estimates of these costs. Chapter Four provides an analysis of how consumer preference shapes the demand for certified coffee. A summary of the research combined with the presentation of conclusions can be found in Chapter Five. This chapter also includes a review of the research process and recommendations for future research.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 INTRODUCTION TO THE THEORETICAL FRAMEWORK

This chapter provides an overview of several important elements which contribute to the objectives of this research. In the first place Section 2.2 will provide an overview of the literature written on the certification of coffee, focussing on both impacts studies and studies concerning the other aspects of certification in the supply chain. Subsequently, in Section 2.3 the theory of monopolistic competition is presented and explained, followed by a model for the certified coffee market. Section 2.4 provides the conclusions on these topics, combining the presented literature in the light of the economic theory provided in Section 2.3.

2.2 OVERVIEW OF RELEVANT RESEARCH

2.2.1 INTRODUCTION TO THE LITERATURE

In the past few decades many studies have been written on the subject of certification. Whether it is on certification of food from a specific region of the world, such as Parma or Iberico ham, or more in the context of the certification of certain types of labour. Certification has its very own history, in which one of the underlying objectives always has been to make an invisible attribute visible for a buyer who is not able to check the attribute themselves (such as consumers). This also counts for certification in the coffee industry, in which certification is relatively young. This section will provide a concise overview of the most relevant studies conducted so far, in order to put this research in the right context. Since there are so many studies on certification, its main focus will be on the certification of the coffee industry.

As explained in the introduction, studies in this industry can be roughly divided into two categories. In the first place the impact studies, which focus on whether a certification scheme is actually able to deliver on its promise. These studies are often considered most important because they tend to look at the very reason why consumers buy certified coffee. Showing that a product is in line with certification standards, does not necessarily prove the standards themselves are constructive for the higher purpose. For example, whether a farmer gets paid more if a consumer buys Fairtrade coffee is only relevant if this increases the farmers overall situation. The extra payment is just a means to an end. Impact studies check whether certification standards and how these work out, are beneficial to the end, so in the case of Fairtrade, they check whether farmers are actually better off in the end.

The second type of studies written on certification in the coffee industry, focus on the dynamics around certain parts of the supply chain. There are studies focussing on traders, consumers,

supermarkets, roasters etcetera, to see how these actors respond to the availability of certification systems. There is some overlap between the two categories, especially since the two largest coffee certification systems focus on the primary producers of the coffee. Research of which the focus lies on these primary producers might therefore be placed in both categories. Yet, for the sake of clarity, this section will maintain the division of these two areas.

2.2.2 IMPACT STUDIES

The number of studies related to the consequences of certification in the coffee sector alone, has been set to over a hundred already (Kuit & Waarts, 2014). Not all of these studies look at actual impact of certification; Kuit & Waarts (2014) found that around forty of these studies focus on impact. Only few of these studies use a credible methodology to substantiate their findings. One of the largest problems in impact studies is to find the so called counter-factual. Or in other words, to find an answer on the question what would have happened if a farmer would not have been into a certification program. This hypothetical case is difficult to make, yet is important to ensure measured changes over time can be ascribed to a certification program and not some other variable. Only fourteen of the mentioned studies include this methodology. Of these fourteen studies about a third is focussed on Fairtrade and only two studies focus on UTZ Certified. In the next section the main findings of these studies will be summarized and discussed.

Fairtrade aims to increase the welfare of poor primary producers. Their methods to accomplish this are mostly based on making sure they receive a higher price for their produce, through an obligatory premium and a floor price. Also education on farming methods and access to credit are important instruments to increase farmer welfare. The efforts of Fairtrade have had several effects, both positive and negative. Results of impact studies on the effects of Fairtrade are contradictory, often due to totally different contexts between research areas. Arnould and Palestine (2009) provide several findings from a study conducted in three Latin American countries (Latin America is over represented in the number of impact studies as noted by both Kuit and Waarts (2014) and Blackman and Rivera (2010)). They found FT farmers are more productive and make better use of their land than non-FT farmers. Also farmers within the program seem to receive higher prices for their coffee. Unfortunately this study does not involve a final conclusion on actual total income.

Several studies find that as a result of FT farming, producers are more specialized and less able to diversify their production (Jena, Chichaibelu, Stellmacher, & Grote, 2012; Saenz-Segura in Ruben, 2008). These other studies show that although price per product might increase, overall income might not. This situation may even lead to a lock-in effect, since FT farmers become

dependent on a single buyer (Jaffee in Ruben, 2008). Whether there is a premium paid to FT farmers is still an unresolved matter. Jena et al. (2012) provide findings from a study in Ethiopia in which there is hardly any price difference between FT coffee and conventional coffee. This is mainly due to the fact that cooperatives are poorly organised which forces farmers into selling their produce to local merchants who do not pay any premium. Apart from this, the data of this research originates from a period in which the local prices (and the world market prices) were high, so a floor price was irrelevant. The absence of premiums are in line with the findings of Ruben (2008) who find that there is hardly any premium paid. Only 23% of their respondents state they have had any benefit from being certified. These benefits also apply mostly to increased access to credit and technical assistance rather than the payment of a premium. They do however find a positive impact of FT, namely that FT farmers are more likely to invest. A study by Jaffee (In Ruben, 2008) in Mexico finds similar results together with some other positive effects. Fairtrade farmers are more resilient and do receive a higher overall income. They have better access to food and education, together with better access to health care. These effects are also apparent in the earlier mentioned study of Arnould et al. (2009).

Overall the effects of Fairtrade are highly dependent on the context of the local situation. Jena et al. (2012) find that the cooperative effect is more important than the certification effect. Meaning as much as that it is more important that a cooperative functions well and is able to reap the benefits of certification rather than 'only' being certified. In a more theoretical approach De Janvry, McIntosh, and Sadoulet (2010) state that the open access characteristic of the Fairtrade mechanism has significant negative effects on the eventual aim of the certification scheme. In this case the Fairtrade mechanism serves as a common resource pool which will deplete as more farmers enter. This leads to deterioration of the system. They state that FT farmers can only sell about 30% of their production as Fairtrade coffee. In times of low world market prices, so when the floor price mechanism comes into play, this share drops to 10%. These findings are in line with the findings of many other studies (Blackmore & Keeley, 2012; Kuit & Waarts, 2014; Panhuysen & Pierrot, 2014; Ruben, 2008; Ruben & Hoebink, 2015; Valkila et al., 2010). Fairtrade seems therefore an instrument of which its effectiveness is highly dependent on local circumstances. Many of the studies as mentioned in this chapter provide recommendations to increase the effectiveness of the Fairtrade system. Fairtrade is potentially an effective way of increasing producer welfare, but is far from a panacea.

UTZ Certified has a slightly different approach than Fairtrade. The focus of the UTZ certification system is on the improvement of agricultural practice. Higher quality crops will than yield better prices, so is the idea. Through the availability of trainings and technical assistance UTZ tries to accomplish improvement of farmer conditions. Since the UTZ program is relatively young only

few, methodologically acceptable, studies have been conducted on its impact. Their findings have something in common with the Fairtrade impact findings, namely the fact that impact is highly dependent on local context.

Kamau, Mose, Fort, and Ruben (2011) found that UTZ farmers in a village in Kenya tend to have higher coffee sales, are able to save more and make more investments in land. In another village farmers included in the UTZ program had received more credit and were able to have higher off-farm income. This led to more capital related investments. Although the often higher coffee prices, overall income did not necessarily increase. Elbers, Rijsbergen, Bagamba, and Hoebink (2014) point out that farmers increased the quality of their farming practice, leading to better and higher quality yields. The interesting thing is that, despite all the work of UTZ, the retreat of an important buyer led to a collapse of the system. If farmers were not able to sell their higher quality products they found no reason to spend the extra effort. The researchers state that the UTZ program led to more 'entrepreneurial farming' although if there was no buyer available farmers would switch back to subsistence farming.

Rijsbergen et al. (2014) underline the conclusion that trade is more important than production. This study focusses on differences between UTZ Certified, Fairtrade and conventional farmers. It shows UTZ farmers receive a higher price than Fairtrade farmers, although overall it hardly seemed to matter. Farmers were for less than half of their income dependent on coffee production and this share was only for about 30% coming from coffee sold under a specific label. A premium was hardly provided. Increased demand for labelled coffee would increase the relevance of higher prices for these types of coffee. But apart from the importance of trade, good management was shown to be of significant importance as well. As Ruben and Hoebink (2015) shows, the absence of a good and trustworthy management in cooperatives leads to a decline in farmer trust. This trust is important to decrease risk averse behaviour, which is required for changes in farming practice. This is similar to the results of Jena et al. (2012) mentioned earlier, who found the importance of good functioning cooperatives for the success of Fairtrade.

All of these impact studies show the importance of many other aspects which are often outside of the scope of certification schemes. Whether UTZ and Fairtrade certification succeed in their objectives is highly dependent on context, such as the functioning of cooperatives, the availability of good sustainable trade relations. The question if certification works is therefore not so easily answered.

2.2.3 CERTIFICATION IN THE SUPPLY CHAIN

Apart from the actual impact of certification on farmer life, it also has consequences for other actors in the supply chain. This research aims, among other things, to answer the question what

the effects are of certification costs on how the price for certified coffee is formed. The consequences of certification for different actors are likely to play a role in the way certification costs are covered and spread. For instance, the extent to which consumers are willing to pay more for certified coffee partly determines (partly) which final prices will be charged for this coffee. This section will therefore shed some light on some of the studies written so far regarding the dynamics that occur as a consequence of certification.

The whole system of certification is dependent on whether consumers are willing to buy certified products. Consumers have therefore been scrutinized in order to understand their preferences and what they are willing to pay in order to satisfy their wants. The studies on these subjects provide several insights. According to Dutch consumer research from 2010, buyers of FT mainly consist of older people who are well-off and coming from a higher social class (Gfk, 2010). This group is willing to pay more for certified coffee. Several studies have been written which dive into this increased willingness to pay (WTP). Hertel, Scruggs, and Heidkamp (2009) find that consumers say they are willing to pay more for certified coffee. Respondents said they were willing to pay at least 50 ct/\$ more per pound of coffee. Even half of the people said they would even pay a full dollar more. This accounts for 15-30% extra compared to the price of conventional coffee. This data was gathered using telephone interviews of 508 people. But do people really pay more or do they only say they do? In order to adjust for what some call 'the myth of the ethical consumer', additional research was required (Carrigan & Attalla, 2001). Hainmueller, Hiscox, and Sequeira (2015) and Arnot, Boxall, and Cash (2006) tested consumer willingness to pay in real-life market situations. The first research was conducted in grocery stores in the USA, while the second was conducted on a Canadian University. They found that the demand for high quality Fairtrade coffee was almost insensitive to price changes, while lower quality certified coffee was sensitive to changes in price. According to the previously mentioned Dutch consumer research, the most important reason for people to buy FT is because of the ethical component.. But it is reasonable to assume that if a certain type of product is more in line with a broad range of consumer preferences, sensitivity to price changes decreases. Although taste (sensory coffee quality) is deemed less important than the ethical concerns, it still has influence as was shown in the previously mentioned research.

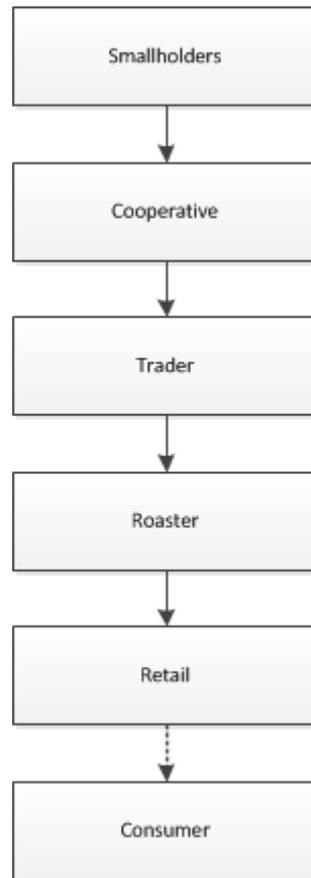


Figure 1 An example of the certified coffee supply chain

Consumers buy their certified coffee from retailers, supermarkets, restaurants etcetera. These supply chain actors (SCA's) respond in their own way to certification. Elder, Lister, and Dauvergne (2014) describe a whole range of reasons why certification is interesting for companies. Certified products have business value and brand retailers use certification systems as a strategic business tool. The demand for certified coffee has rapidly increased due to the increased business commitment towards certification schemes (from companies such as McDonalds, Starbucks, Ahold, Sarah Lee etcetera.). This has partly to do with the fact that by showing to consumers companies are in favour of certified coffee, they can improve their brand image; something of utter importance in a monopolistic competitive market.

There are also possibilities for these companies to increase their profit margins. Certified markets are less efficient in transferring profits down the chain, meaning that primary producers earn a lower share of the final coffee price, while roasters earn more. This has already been described by a whole range of different scholars, such as Daviron and Ponte (2005); Elder et al. (2014); Kolk (2011); Valkila et al. (2010) state that these roaster corporations are able to

increase their market control through the use of certification systems. Since there is an enormous oversupply of certified coffee (e.g. around 70%), both roasters and traders are easily able to shift from one producer to another, leading to lower costs and a better bargaining position. The reason why primary producers produce way more than they can sell might have to do with the reason as described earlier in the section on impact studies. Assuming the certified market is as a common resource pool, as presented by De Janvry et al., producers will enter as long as there is some hope on extra profit. So even if farmers can only sell part of their production as being certified, they might face a short term income increase. But eventually this may lead to a decreased bargaining position. Since there are so many farmers producing certified coffee and the demand is relatively low, coffee buyers (like traders and/or roasters) are able to shift to the producer with the lowest price. For the farmers selling any coffee is better than none, so there will be a race to the bottom. In this way certification might undermine the very reason of its existence.

As, among others, the study of Elder et al. (2014) show very clearly is that the certification business not merely exists for the sake of the 'poor' producers. This finding requires a different future angle than impact studies provide, since the impact of other actors, both consumers and SCA's, is highly relevant. With the increasing number of both corporate and social standards, the need for knowledge on how certification works has increased.

2.3 MONOPOLISTIC COMPETITION AND THE CERTIFIED COFFEE MARKET

2.3.1 FROM PERFECT COMPETITION TO MONOPOLISTIC COMPETITION

During the past century the coffee market has become more differentiated than it ever was. While in the early days coffee was a homogenous commodity, nowadays it has evolved into a market in which consumers have plenty of choice to buy the coffee which best suits their taste. Coffee is no longer simply coffee. There are roughly two species of coffee, namely the milder tasting Arabica and the bitterer Robusta. But apart from these two species there are plenty of other reasons why one type of coffee distinguishes itself compared to the other. Consumers are made to believe Kenyan coffee differs from coffee produced in the mountains of Ecuador. There are many countries producing coffee, leading to a whole range of different coffee types. The different species and characteristics of coffee lead to enormous possibilities for blends, which creates an even more differentiated market (consumer demand assumed). There is also, as in many markets, a clear distinction in product quality. This is to some extent linked to other product attributes, but also a way in itself to distinguish one coffee from another. Not all Arabica beans produced in Indonesia are of the same quality. Coffee producers have thus found many ways to differentiate their product.

Until quite recently product differentiation was entirely based on quite visible product attributes (although the visible attributes that are linked to country of origin are rather vague). With certification the differentiation of the market reached new heights. Nowadays it is possible to buy coffee with an extra attribute, such as that it is produced without the use of certain pesticides (organic label) or without any negative externalities for nesting birds (Bird Friendly). The ability to provide these credence qualities, provided producers with the opportunity to differentiate their produces even further. As stated in Chapter One, there is a whole range of different credence qualities apparent in the coffee industry. Coffee producers can pick and choose in order to better suit the wants of consumers.

With the increasing differentiation of the coffee market, the economic principles that underlie this market have changed. In the early days of coffee production, coffee was a commodity; produced in bulk with no specific product qualities. Coffee was produced by many different producers who had hardly any market power, while producers could freely enter and exit the market. The coffee market could best be viewed as a perfectly competitive market. But when producers started to differentiate their product, they gained market power, leading to a different market form: monopolistic competition. This type of market functions differently, leading to different incentives and supply chain actor (SCA) behaviour. The theory of a perfectly competitive market is no longer a suitable way of analysing the coffee market. The next section will therefore explain the underlying principles of a monopolistic competitive market in order to understand the dynamics in the certified coffee market.

2.3.2 MONOPOLISTIC COMPETITION EXPLAINED

As explained in the previous section coffee has become a highly differentiated product. Its market form differs from perfect competition since producers have some power to set their own prices. It is also different from a monopoly, because there is still competition between producers. The high number of producers together with free market entry prevent any possibility for producers to behave strategically, which makes monopolistic competition different from an oligopoly as well. This means that the best way to look at the coffee market, from the perspective of economic theory, is through the principles of a monopolistic competitive market. This section will provide the theory of monopolistic competition and how producer and consumer incentives are shaped in the short and the long term.

In the short term a monopolistic competitive market behaves much like a monopoly; producers can set their own prices. But there is a difference with pure monopolists since this price is not entirely 'free'. It depends on how many firms there are in the industry and what prices they charge. Consumers are only to some extent willing to pay more for the addition the producer

offers. If the price is too high consumers will shift to other firms, even if this means they have to buy a product which is less suitable. Or in other words, the availability of many (close) substitutes results in a more elastic demand; a situation that will not occur in a pure monopoly. So the economic profit producers can make by differentiating their product is limited. The choices a producer faces in the short term on the other hand are much like a monopolist and are best explained with a graphical rendering of the situation.

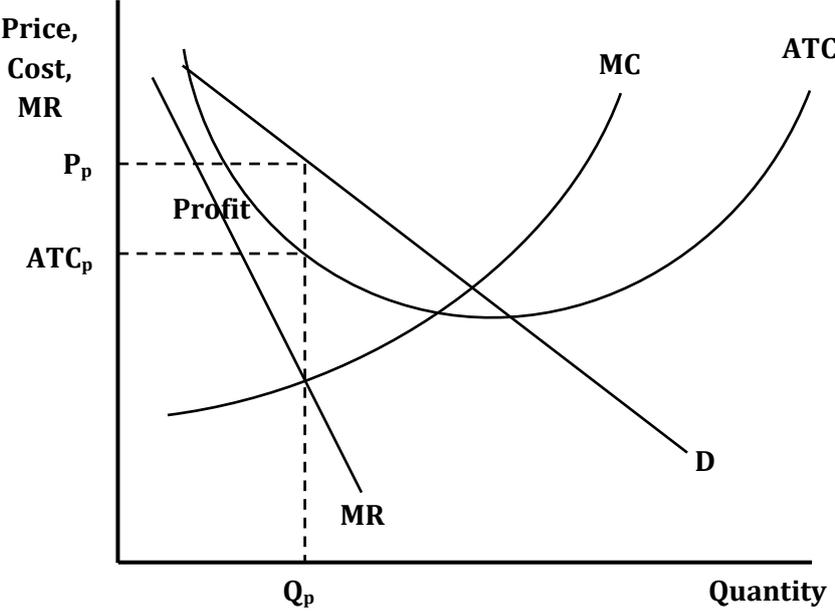


Figure 2 Monopolistic competition in the short run (Krugman & Wells, 2009)

The demand (D) for a good in a monopolistic competitive market is downward sloping, meaning that a price increase will lead to lower sales. The producer will, just like in a monopoly, produce the quantity at which his marginal revenue (MR) equals his marginal costs (MC). When assuming the producer differentiated his product to increase his economic profit, the average total cost (ATC) will be lower than the price of the product. In this situation the difference between the price and the average total cost, times the quantity produced forms the profit of the producer.

So far the situation has been exactly like a monopoly. But in the long run monopolistic competition differs from a monopoly. When other producers have had the opportunity to respond to the actions of a specific producer, the situation is quite different. When a single producer is able to differentiate a product, resulting in an economic profit, more firms are likely to enter the market making a somewhat similar product. As long as there is an economic profit available in this market, other producers will enter. With every producer that enters the new market, the average total costs of a single producer in that market will increase, because the demand for their product decreases. Eventually this will lead to an equilibrium in which the average total cost is exactly equal to the price, as shown in the situation below.

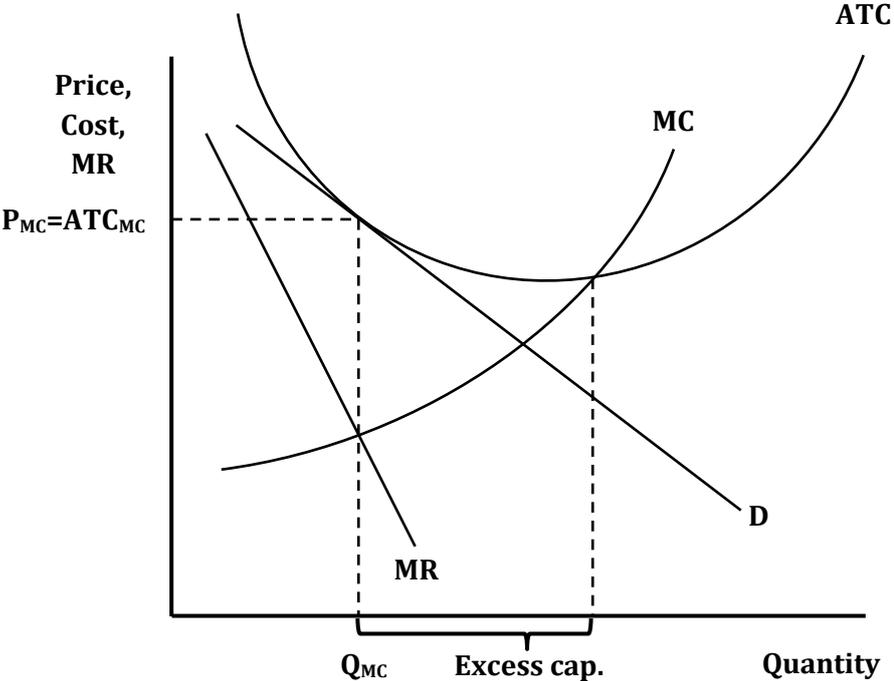


Figure 3 Monopolistic competition in the long run (Krugman & Wells, 2009)

In the long run producers will still be producing at the point at which their marginal revenue equals their marginal costs, with the difference that their economic profit equals zero. Although this situation is sustainable in the long run, individual producers are better off if they can sell more of their product against the same price, compared to other producers. As long as producers produce against higher than optimal average total costs, there is an incentive to sell (and produce) more goods. So in the long term equilibrium position producers face an excess capacity, which is equal to the quantity between the equilibrium quantity and the place where the MC equals the ATC.

This situation shows the very reason why advertising exists. By advertising producers are able to inform potential consumers about their product, so consumers start buying their product. In this way producers can distinguish themselves from other producers. Producers in a monopolistic competitive market are in the long run involved in a continuous struggle to convince potential consumers their product is better, in order to increase their profit. With the use of advertisement they are able to do just that. From a consumer perspective the situation is economically speaking inefficient, but this is largely reduced by the fact that they are provided with more options. In the end the consumer might be best off while producers are constantly trying to gain market power.

2.3.3 THE CERTIFIED COFFEE MARKET

In the previous section the theory on monopolistic competition has been explained. The certified coffee market is a clear example of such a market and therefore this theory is helpful as a tool for further analysis. The important question with regard to this analysis is what the consequences are of the costs that are involved in certification. It is rather obvious that the certification system requires numerous efforts in order to be successful, of which some are quite costly. There might be, for instance, advertising costs, which are required in order to present certified coffee as a differentiated product. This section will provide a theoretical perspective on the consequences of these types of costs.

The situation in the certified coffee market differs from the situation in a standard, uncertified coffee market. There will be several changes as a result of certification costs. In the first place the average total costs will change. The average total costs consist of two different parts: fixed costs and variable costs. Changes in these parts result in different consequences for the average total cost. Certification costs might be influencing both costs, for instance a premium paid to farmers is a variable cost and depends on quantity sold, while the cost for adapting to new farming methods is fixed. The extent to which these parts change have influence on both the shape and the position of the average total cost curve; both in a different way depending on the cost

function. In the second place the marginal cost curve, the cost of producing an extra unit, will change as a result of changes in the total cost function. It is not influenced by an increase in fixed costs, but only by a change in variable cost.

The third part that is likely to change is the demand curve. This curve is not dependent on the costs, but on advertising and the change of the product itself. As described earlier, a certified product has an extra quality for which some consumers are willing to pay more. The extent to which these consumers are willing to pay more for a certified product decides to what extent the demand curve shifts. Apart from this shift it is also possible the slope of the demand curve changes. Consumers in the certified market might be less, or maybe more, susceptible to price changes, leading to a change in elasticity. If this is the case the marginal revenue curve will change as a result of the change in elasticity.

The changes that occur as a result of the situation as described above can be further illustrated by using a simplified theoretical case. For this case the basic economics rules will be applied, namely:

Total costs (TC) equals the sum of the fixed costs (FC) and the variable costs (VC)

$$(1) \quad TC = FC + VC$$

Average total costs (ATC) are the total costs (TC) divided by the quantity (Q)

$$(2) \quad ATC = \frac{TC}{Q}$$

Marginal costs (MC) is the change in total costs (TC) as a result of the change in quantity (Q)

$$(3) \quad MC = \frac{\partial TC}{\partial Q}$$

A theoretical cost function can be used to illustrate what the influence is of types of certification costs on the final equilibrium in the new market.

The total costs can be described as:

$$(4) \quad TC = f + \frac{cQ^2}{2} \text{ under the assumption } f > 0, c > 0$$

The average total costs are therefore:

$$(5) \quad ATC = \frac{TC}{Q} = \frac{f+cQ^2/2}{Q}$$

The marginal cost function is:

$$(6) \quad MC = \frac{\partial TC}{\partial Q} = cQ$$

The equilibrium quantity can be found by calculating the point where the marginal cost (MC) equal marginal revenue (MR). In order to find the MR the following demand function is assumed:

$$(7) \quad Q = \frac{1}{n} (a - P) \text{ assuming } a > 0$$

In which n equals the number of firms and a characterises the consumer preference for certified coffee. Revenue is found by multiplying price with quantity, which requires the demand function to be rewritten in terms of the price (also named the inverse demand function):

$$(8) \quad P = a - nQ$$

Revenue will therefore be:

$$(9) \quad P * Q = (a - nQ) * Q = aQ - nQ^2$$

This leads to a marginal revenue (MR) of:

$$(10) \quad MR = \frac{\partial PQ}{\partial Q} = a - 2nQ$$

The equilibrium quantity (Q^*) is subsequently found by calculating the point where $MC = MR$:

$$(11) \quad cQ = a - 2nQ$$

Which is equivalent to:

$$(12) \quad (c + 2n) Q = a$$

This equation leads to the value of Q^* :

$$(13) \quad Q^* = \frac{a}{c+2n}$$

Considering the certified coffee market as part of the heterogeneous coffee market, the solution shows that an increased consumer preference for certified coffee leads to an increased number of sales in that same market. When the number of brands (n) increases the equilibrium demand for certified coffee decreases (although this n is fixed in the SR). This is also the case when the variable certification costs increase. The equilibrium quantity sold in the certified market leads to an equilibrium price in this market.

The equilibrium price (P^*) is found by using the inverse demand function and the value of Q^* :

$$(14) P^* = a - nQ^* = a - \frac{na}{c+2n}$$

This equilibrium price shows that when consumer preference for certified coffee increases, the average price in the market increases. This is understandable, because consumers are more in favour of certified coffee and buy accordingly. It also shows that an increase in the number of brands will lead to a lower price, which is explained by higher n lowers the marginal revenue (fewer clients).

The average total costs in the equilibrium (ATC^*) can be found by using Q^* as a value for Q in the ATC function:

$$(15) ATC^* = \frac{f+cQ^{*2}/2}{Q^*}$$

When the average total cost is known for the equilibrium quantity, the profit of the company can be simply calculated:

$$(16) (P^* - ATC^*) Q^*$$

The excess capacity can also be calculated. This is the quantity between the equilibrium quantity (Q^*) and the preferred quantity (Q_{pref}) where the marginal cost (MC) equal the average total cost (ATC).

$$(17) MC = ATC \quad \Leftrightarrow \quad cQ = \frac{f+cQ^2/2}{Q}$$

Which is equivalent to:

$$(18) Q_{pref} = \sqrt{\frac{2f}{c}}$$

This leads to an excess capacity (Exc) of:

$$(19) Exc = Q_{pref} - Q^* \Leftrightarrow \sqrt{\frac{2f}{c}} - \frac{a}{c+2n}$$

The excess capacity is a very useful tool to see the extend of the unexploited economies of scale. The larger the excess, the larger the unexploited scale advantages for the involved firms. Firms are incentivised to increase these advantages as much as possible, or in other words: to decrease the excess. In case of a higher consumer preference (a) excess capacity will logically decline; more consumers are willing to buy, leading to a higher sales and a smaller difference between the preferred and the actual production level.

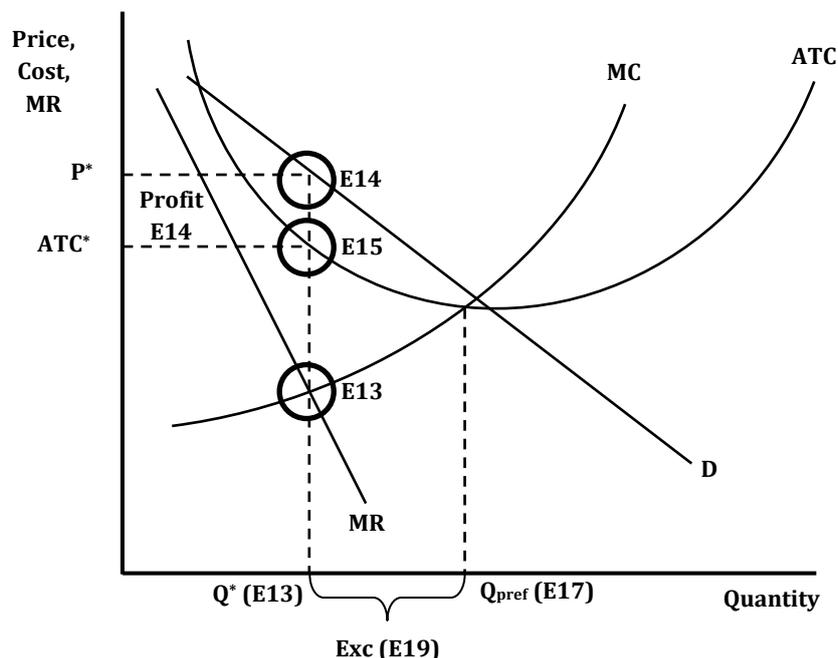


Figure 4 Monopolistic competition in the short run with equation references (Krugman & Wells, 2009)

The equations as described above show the algebraic solutions to the situation in a monopolistic competitive certified coffee market in the short run. In this case the number of firms n is fixed. In the long run the number of firms will increase to the point in which profits equal zero. If there is profit available more firms will enter. Therefore n is solved for the point where the demand curve (D) touches the average total cost curve (ATC):

$$(20) P^* = ATC^*, \text{ so where } n \text{ solves } a - \frac{na}{c+2n} = \frac{f+cQ^{*2}}{Q^*}, \text{ where } Q^* = \frac{a}{c+2n} \text{ (see eq. 13-15)}$$

The theory on monopolistic competition is logically focussed on producer and consumer behaviour. The differentiation of products is incentivised by the industry itself. But in the certified markets there is another actor in play, namely the certification agency. These agencies do not focus on profit, but on the proliferation of their standards in the relevant industries. They are to a large extent an external factor in the production of the final good, but they do influence production indirectly. They charge fees from involved producers, so these producers are allowed to present their produce as satisfying the standard. These fees are in turn used to sustain the external certification apparatus. The interesting thing here is that certification agencies do not only rely on these fees, but also on external donors. The origin of these certificates are found in a social concern for production externalities, such as the use of child labour, leading to the idea

certification is to some extent the answer of overcoming those externalities. In this way it becomes a charity rather than a product differentiation method, leading to more support from donors. This results indirectly in the situation where donor money might reduce the cost pressure on the producers and therefore the eventual production equilibrium and producer profit. If donor money would eventually wear off, this same cost pressure might increase again.

Considering this situation, it is interesting to see the influence of the fixed certification costs on several of the previously explained areas. Fixed costs might for instance increase as a result of the situation in which donor money is decreasing. Another reason for increasing fixed costs is the need for advertisement. When more firms enter the market there will be a subsequent need for individual firms to distinguish themselves with the use of advertisement. This will lead to higher fixed costs.

In order to shed light on these consequences, a numerical example is provided. This example helps to see the influence of changes in the two different types of certification costs (fixed and variable) and consumer preference on the long run situation in the market.

In the first place the increase in fixed costs will lead to a lower number of firms in the certified coffee market as is shown in figure 5 (with a and c kept at 15 and 2 respectively). So when donor money forms a relatively large share of the certification agency income, a downturn in donations will lead to firms being forced out the market. A decrease in the number of firms means also less product choice for consumers.

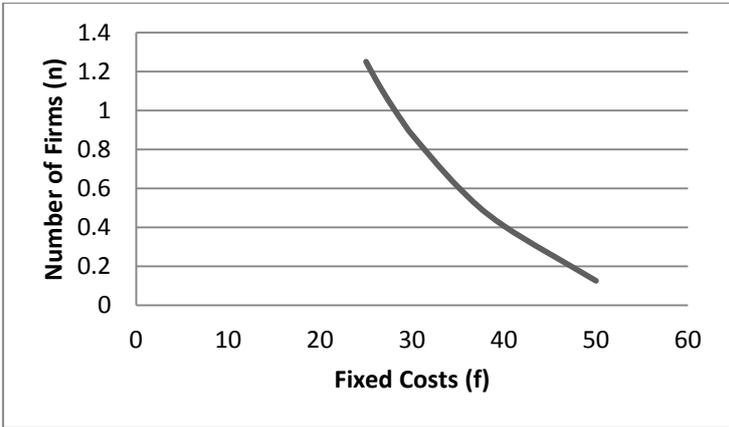


Figure 5 Change of the number of firms (n) in the long run as a result of higher fixed costs (f) (a = 15, c = 2)

It is not only the number of firms that will change as a result of higher fixed costs, but also the equilibrium price. Figure 2.6 shows that an increase in fixed costs leads to higher prices;

increased costs need to be covered by the consumers (again with a and c kept at 15 and 2 respectively).

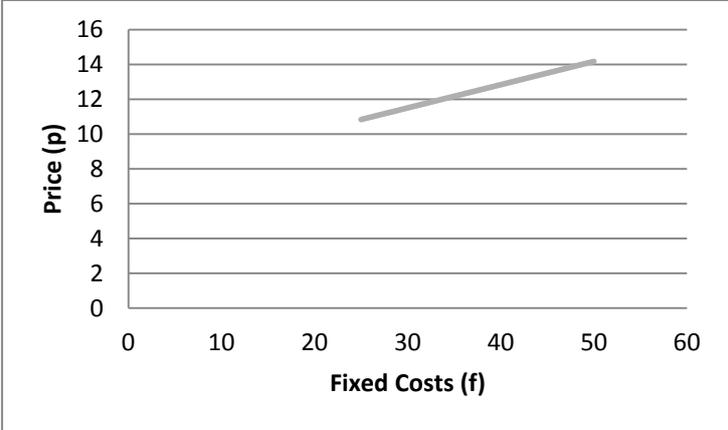


Figure 6 Change of the equilibrium price (P) in the long run as a result of higher fixed costs (f) (a = 15, c = 2)

Overall this means that when the fixed costs in the market increase, consumers face a higher price together with a lower number of buying options. The firms also face a change as a result of higher fixed costs in their excess capacity. As shown in figure 7 the excess capacity is lower in case of higher fixed costs. This seems interesting, since in the short run an increase in the fixed costs leads to an increase in the excess capacity (see equation 19). But in the long run the number of firms is also a function of the fixed costs f , leading to the conclusion that impact of higher fixed costs depends on the size of consumer preference a . This results in the conclusion that in the long run the number of firms leaving the market as a result of increased fixed costs does not solely depend on the size of this increase, but more so on the size of the consumer preference. Or in other words, the equilibrium quantity (Q^*) grows at a faster rate than the preferred production quantity (Q_{pref}), but only when the consumer preference (a) is large enough.

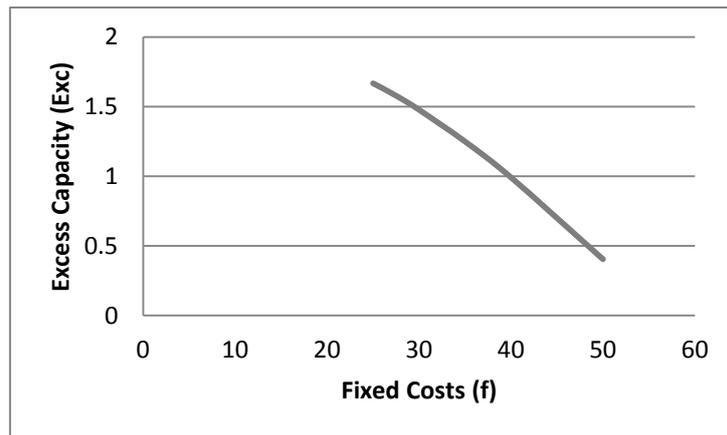


Figure 7 Change of the excess capacity (Exc) in the long run as a result of higher fixed costs (f) ($a = 15, c = 2$)

Another element in the certified market is the payment of a premium. Assuming the premium will eventually be paid by the roasting firms, an increase or decrease in the height of the premium will result in an effect on the involved number of firms in the market in the long run. This cost is not a fixed cost, but depends on the amount of coffee sold, which makes this a variable costs. When variable costs increase the number of firms in the market will decrease (see figure 8 with a and f kept fixed at 15 and 25 respectively). It is also possible that the premiums will be reduced, due to the large oversupply of certified coffee, which will logically lead to an increase in the number of firms.

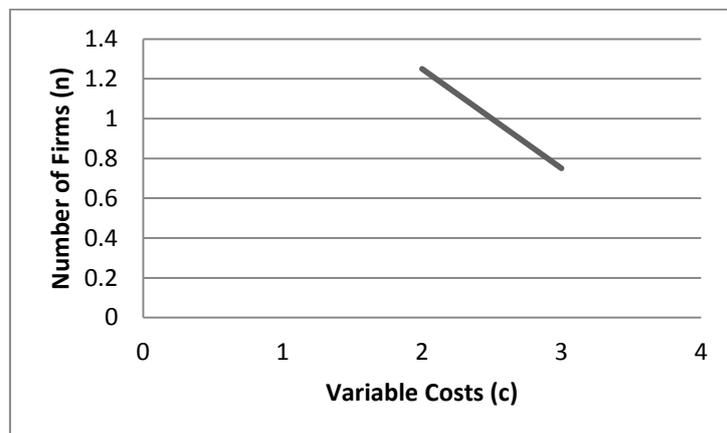


Figure 8 Change of the number of firms (n) in the long run as a result of higher variable costs (c) ($a=15, f=25$)

The increase in variable costs lead to a decrease in the number of firms, but also to an increase in the equilibrium price as is shown in figure 9. This results in the same consumer consequence as with increased fixed costs, namely that they face less choice in the long run while having to buy their coffee at a higher price.

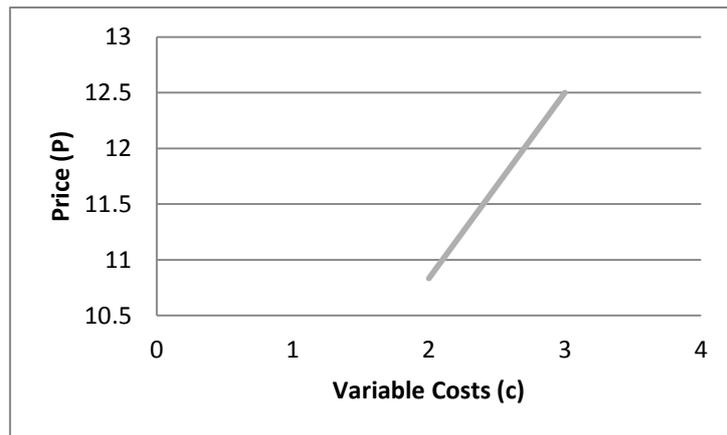


Figure 9 Change of the equilibrium price (P) in the long run as a result of higher variable costs (c) (a = 15, f = 25)

For firms the increase of variable costs leads again to a lower excess capacity, which is shown in figure 10. The increase in the variable costs (c) leads to a decrease in the number of firms (n) which in turn results in exactly the same equilibrium quantity. The preferred production quantity (Q_{pref}) is lowered with an increase of the variable costs, and this leads to a lower excess capacity. Overall this means that although the number of firms in the certified market decreases, the firms still included face less scale disadvantages.

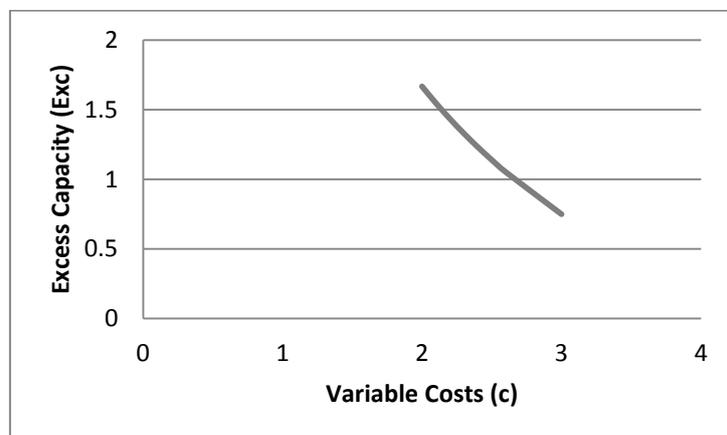


Figure 10 Change of the excess capacity (Exc) in the long run as a result of higher variable costs (c) (a = 15, f = 25)

One final important element to scrutinize is consumer preference. Section 2.1 described studies on certificate impact, which is an important determinant for consumer preference. Increased positive impact on farmers will lead to an increase in consumer preference for the product. When the preference of consumers increases, they will buy more coffee, leading to higher sales and profit of coffee firms.

The model provides an example of how the market will respond in the long run, by showing how many firms will enter as a result of increased consumer preference (see figure 11 with c and f kept fixed at 2 and 25 respectively). Another scenario is also possible, namely the decrease of certificate impact. A decrease in paid premiums due to the oversupply of certified coffee will might also lead to a decrease in certificate impact (assuming it is the premiums that provide the impact). In this case consumer preference will deteriorate, leading eventually to lower profits and forcing firms out of the certified market.

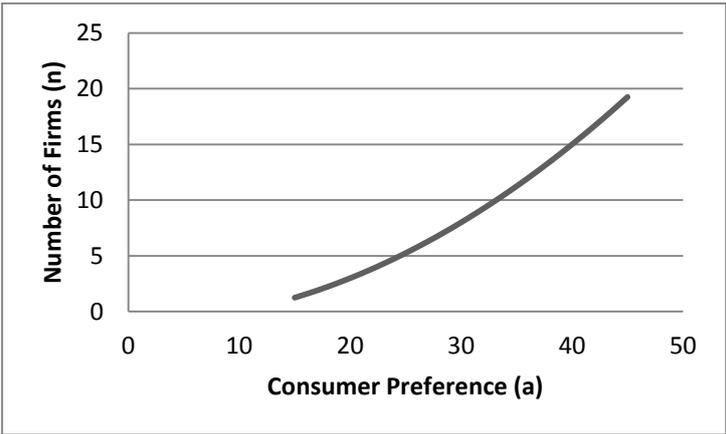


Figure 11 Change of the number of firms (n) in the long run as a result of higher consumer preference (a) ($c = 2, f = 25$)

An increase in consumer preference also leads to a higher price of certified coffee as is shown in figure 12. The higher price is willingly paid by consumers, since they face a higher variety in types of coffee.

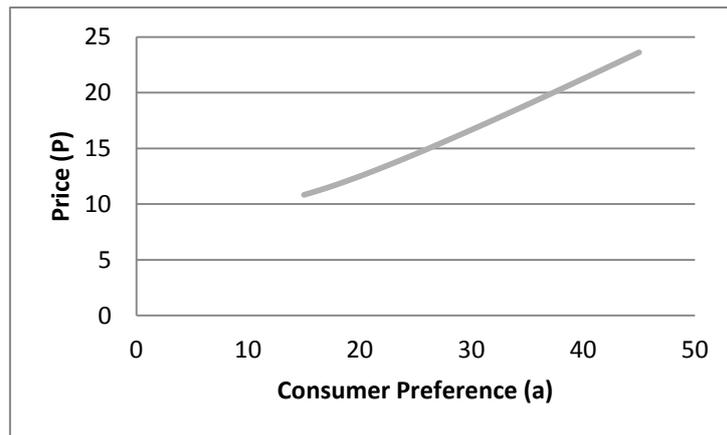


Figure 12 Change in the equilibrium price (P) in the long run as a result of higher consumer preference (a) (c = 2, f = 25)

The firms in the certified market see a decrease in their excess capacity, due to the fact that the preferred quantity produced does not change while the equilibrium quantity does increase (see figure 13). As a result of increased consumer preference for certified coffee, more firms will enter which in turn also face lower excess capacities leading to increased economies of scale.

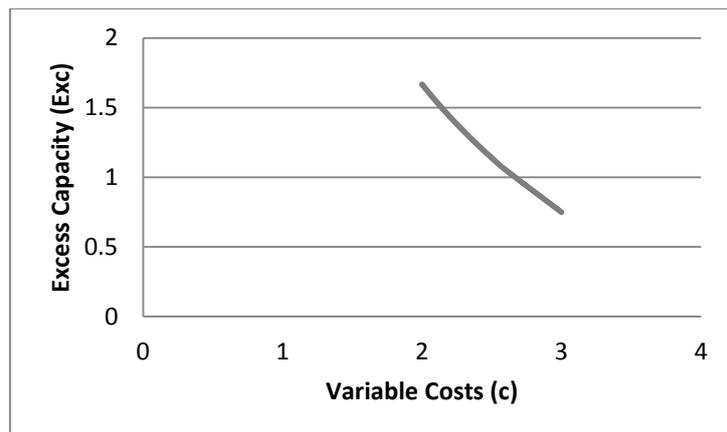


Figure 13 Change in excess capacity (Exc) in the long run as a result of higher consumer preference (a) (c = 2, f = 25)

One final comment is required in order to understand the difference between the certified market and a standard market. There is another reason besides the existence of certification agencies why the certified market differs from the standard market. Normally product differentiation is incentivised by the industry itself. In the long term, while more producers enter, producers will keep trying to differentiate their product *and/or* advertising their product, so they can make a profit. This is a constant process. In a certified market in which there is a clear standard, such as not using child labour, in the end there will be no further room to differentiate further. Adjusting a standard in order to differentiate is not a strategy from certification agencies. So, as more producers start to adjust, eventually the certification standards will be maintained in the entire industry.

This results in the final situation in which coffee is produced at a higher cost, since all coffee is produced against the higher standard. But since there is no spare room left from a certificate point of view to differentiate the product further, there will be a new equilibrium in which less is produced against higher average total costs (assuming certification costs include both changes in fixed and variable costs). In this stage all coffee will be certified while only part of the consumers is willing to pay more for this extra feature. Economically speaking this results in a lesser shift of the demand curve compared to the initial stage in which the certified coffee market was new. Firms need to find new ways to differentiate themselves from other firms.

2.4 RESEARCH FINDINGS FROM THE PERSPECTIVE OF MONOPOLISTIC COMPETITION

The first section of this chapter, Section 2.1, provided a summary of the findings of other scholars on certification impact and dynamics in the supply chain. Section 2.2 provided a theoretical base for understanding certification from the perspective of monopolistic competition. This theory can also be used as a perspective to understand the findings of the summarized studies of Section 2.1. This section will provide a conclusion on the theoretical framework by describing the importance of some of the research finding from the perspective of monopolistic competition and certification costs.

The first types of studies described were the impact studies. The relevance of these studies was made abundantly clear, but from the perspective of monopolistic competition there is something more to say about them. De Janvry et al. (2010) state that consumer demand depends not only on price, but also on the 'intrinsic benefit to the consumer from the inherent attributes of FT coffee' and the extra profit of producers combined with the altruistic preference weight of consumers. The latter explained in other words: if consumers value the extra benefits for producers and producers can actually reap these benefits, demand increases. But if they do not value this *and/or* extra producer benefits are inexistent, demand will decrease. The way in which the demand function is shaped in a monopolistic competitive market is therefore dependent on whether certification works. Certification costs for farmers have an influence on certification impact, although this relation is often only implicitly present in these studies. This shows that the certification costs for farmers have an impact on certification impact and therefore on final consumer demand. The model presented has also shown that a change in consumer preference leads to another equilibrium in the long term due to a change in the demand curve. This eventually leads to a different number of involved firms.

The second type of studies described in Section 2.1 show in the first place to what extent consumers are willing to pay more. This is actually a follow-up of the previous described relevance of impact studies on how certification costs influence demand. The extent to which

consumers are willing to pay more is described in these willingness to pay (WTP) studies. This might include the way in which WTP is influenced by (a change in) certification impact. Willingness to pay studies are an extension which is useful in determining how demand is shaped in monopolistic competitive market. Indirectly they might provide valuable insights into how certification influences the demand function. These studies also show the influence on consumer preference. In other words: they provide the price elasticity of certified coffees compared to standardized coffees, which also helps to determine the shape and slope of the demand curve.

Section 2.2 provides the theoretical implications of relevant changes in the market that might occur as a result of the situations described in Section 2.1. It shows in the first place the influence of both fixed and variable costs on the amount of certified coffee sold as well as the equilibrium price and the extent of the disadvantage of scale for firms. In the short run an increase in variable costs will result in a lower quantity sold against higher prices, as well as a decrease in the excess capacity firms face. An increase in fixed costs will have no effect on either the equilibrium quantity as the equilibrium price, but it will increase the excess capacity and therefore increase the disadvantage of scale. Apart from changes on the supply side, the demand side might change when for instance consumer are more in favour of certified coffee. An increase in consumer preference will in the short run increase both the equilibrium quantity as the price, and will increase scale advantages for firms. In the long run the number of firms will increase as long as the profits are above zero. In this case an increase in any of the variables will also have a consequence for the number of firms. An increase of variable costs will in the long run result in a decline in the number of firms in the industry, but also a decline in the excess capacity (therefore increasing scale advantages). The price of the coffee will increase. An increase of fixed costs will in the long run cause a decrease in the number of firms together with a decrease in the excess capacity (again increasing scale advantages). The price will, just as with increased variable costs, increase. Finally, an increase in the consumer preference for certified coffee will result in higher profits and therefore an increase in the number of firms in the market. Prices will go up, but consumers face more product choice, so they are willing to pay the higher price. As a result of increased consumer preference the excess capacity is reduced, leading to the situation in which firms are able to produce more efficient.

Monopolistic competition has proven to be an interesting perspective on the certified coffee market for understanding costs and SCA behaviour. The theory and literature as presented in this chapter are very helpful in interpreting measured certification costs and their influence on the system. Therefore Chapter 3 will focus on data found on the costs of certification, either variable or fixed. In light of the theory presented in this chapter it shows how these costs

influence the market as a whole. Chapter 4 will focus on the demand side of the equation. Consumer preference has an important impact on the development of the coffee market and therefore an increased understanding will be helpful.

CHAPTER 3: COSTS OF CERTIFICATION

3.1 INTRODUCTION TO CERTIFICATION COSTS

The previous chapter has provided the theory on monopolistic competition as a suitable perspective on the market for certified coffee. Especially the costs of certification and its influence on consumer and producer behaviour can be better understood with this theory. Certification costs seem rather opaque in the literature. It is often mentioned as something of importance, but unfortunately, the data available on costs of certification in the coffee market is rather meagre. This chapter will provide data on these costs in order to make this topic more lucid. There will be made a distinction between whether a cost is variable, so dependent on quantity, or fixed. This is of importance for the analysis of the costs from the perspective of monopolistic competition as discussed in the previous chapter.

Section 3.2 will provide information on how the certified coffee chain differs in its costs from the standardized coffee market. There are notable differences between product requirements in certified chains and uncertified chains, leading to differences in production costs. The subsequent section, Section 3.3, will provide the data on the height of these costs which will be the backbone of this research. Section 3.4 will provide a concise summary of the previous sections.

3.2 CERTIFIED COFFEE CHAIN

3.2.1 TYPES OF COSTS

The production of coffee is a fairly simple process. There are two types of beans in multiple varieties, namely Arabica and Robusta. These beans differ in their flavour and partly in the way they are grown. The production process to green coffee knows very little variation; it is either dry or wet processed. The eventual roasting of the coffee is also relatively straight forward, which makes the coffee we daily use a quite simple product. This process is not different for any type of certified coffee compared to standardized coffee, simply because certification adds an invisible attribute. The invisible attribute is even more difficult to accomplish and ensure than a visible product attribute, which requires an extensive system. Although the actual production chain remains almost the same compared to standardized coffee, the situation of the different SCA's change.

The first difference is in the actual way of production. Certification requires different ways of production, for instance with regard to the use of fertilizer or on how cooperatives are organised. When a supply chain actor becomes certified he has to change his practice in order to

comply to certification rules. But compliance might come at a cost. These costs differ per supply chain actor (SCA), in which the greater the distance between current practice and required practice, the higher the costs. Both UTZ and Fairtrade require almost all SCA's in the supply chain to become certified, although there are specific rules per step in the production process. Primary coffee producers face more rules than final coffee roasters, which might lead to different changes in costs.

The second type of cost is found in checking whether SCA's comply to the rules. There is a difference between certification and verification in this matter. Verification relies on a system in which SCA's mostly check themselves for compliance with the applying rules. 4C is for instance a way of verification in which producers are only checked by an external party once every three years. Certification is much more dependent on these external parties, since compliance is checked every year (at least in the case of UTZ and FT). A third party needs to be hired to check for compliance, which leads to a type of cost not apparent in the standardized coffee production.

The final cost is the cost of the system behind this all. Coordinating the system and setting the rules requires an organisational structure. These systems differ in their activities and the way in which they attach to the production chain. Most important is that this system requires funds in order to run. For example, the Fairtrade organisation is a rather complex system compared to UTZ Certified, which might result in higher organisation costs. The use of an external system results in costs which are not apparent in the standardized coffee chain.

Compared to the standardized coffee market, its certified counterpart involves three types of extra costs. At first, compliance costs are made in order to comply to certification rules. Secondly this compliance needs to be checked by a hired third party. The costs of the certification system are the last category of extra costs. All of these costs might have an influence on the way in which the price of certified coffee is formed.

3.2.2 UTZ CERTIFIED VERSUS FAIRTRADE IN THE SUPPLY CHAIN

The costs of certification are apparent along the entire supply chain. Also the way in which the certification systems of UTZ Certified and Fairtrade attach to the coffee chain differs. For the sake of clarity this section provides information on how both UTZ and FT interact with the supply chain by using a supply chain structure. This will help to understand the costs that will be presented in section 3.3.

When it comes to the supply chain, there are multiple paths coffee can go from primary producer towards the final consumer. It is for instance possible coffee goes via multiple traders towards the importer, increasing the number of chain actors. In some cases the roaster is also an

importer of the coffee. Valkila et al. (2010) shows multiple options via which supply chain actors FT coffee reaches the final consumer (Kiemen & Beuchelt, 2012; Valkila et al., 2010). But for the sake of the argument with respect to the type of certification costs, the exact way in which coffee reaches its final destination is not of great importance. Therefore the straightforward chain as presented in figure 14, is used as a credible model to show which costs are involved where.

One important note is that smallholders are often organized in cooperatives, meaning costs and benefits of cooperatives are the direct responsibility of the smallholders. This also means that the audit of a cooperative includes an audit of the smallholders (or often only a certain sample of that group). Cooperative forming is, especially in the case of FT, required for certification.

When it comes to the UTZ-Certified system, the image below (figure 14) shows that UTZ only interferes to a small amount with the chain itself. There is only one actor in direct (financial) contact with UTZ and that is the final packager of the coffee. The rest of the chain has little to do with the UTZ organisation. Audits are conducted by accredited auditors which are allowed to certify on behalf of UTZ. The only linkage of UTZ with the rest of the chain is via GIP, the computer network system which provides a platform to communicate and administrate every action in the chain, by every actor involved. Although UTZ provides and maintains this system, there is no direct interference with buying, selling, auditing, premiums and whatsoever.

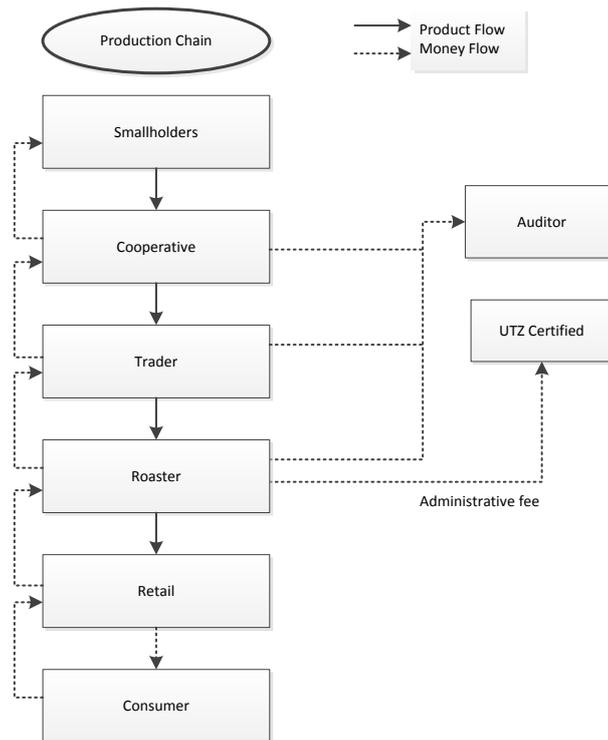


Figure 14 Product and money flow in the UTZ Certified coffee supply chain (UTZ-Certified, 2015a; Valkila et al., 2010)

The Fairtrade system shows more complexity than the UTZ certification system. The Production chain remains the same, which serves as one of the many possible chain possibilities. Goods flow from producer towards consumer and consumer money flows from the bottom of the chain towards the producers. The Fairtrade organisation shows multiple sub-organisations, which are more or less linked to each other. The main entity is the Fairtrade Labelling Organisation (FLO-INT) which serves as a mechanism that develops the standards and policies and provides producer support. Important sub-organisations with regard to these tasks are the producer networks. In 2004 FLO-CERT was founded and detached from FLO-INT. It is nowadays the certifier for Fairtrade produce and is a profit making company, independent from FLO-INT. But they are still linked, since FLO-CERT's net profit flow back to FLO-INT. FLO-CERT operates within the countries of production origin, while within the countries of destination the National Labelling Initiatives are responsible (e.g. Max Havelaar in the Netherlands). There is some overlap in activities, which results in internal agreements between FLO-CERT and a national movement. Traders are, for instance, part of FLO-CERT's responsibilities, while roasters are subject to national movements responsibilities. When a roaster is both importer and processor, in the case of Simon Lévelt for instance, an agreement is formed between the concerning stakeholders.

A final remark concerns the auditors. It seems odd to place them on the far right of the image (figure 15), but from a cost perspective the relation is as presented. FLO-CERT is officially the auditing company, but auditors are often hired by either the Fairtrade national initiatives or FLO-CERT. The difference with UTZ Certified is that FLO-CERT is owned by Fairtrade International; all its profit flows to FLO-INT. There is a direct financial relation between Fairtrade (FLO-CERT directly and FLO-INT indirectly) contrary to auditors in the UTZ system. There has been some rumour that UTZ wants to demand some fee from auditors, which would make both systems more similar (from a financial perspective), but this has not been decided yet.

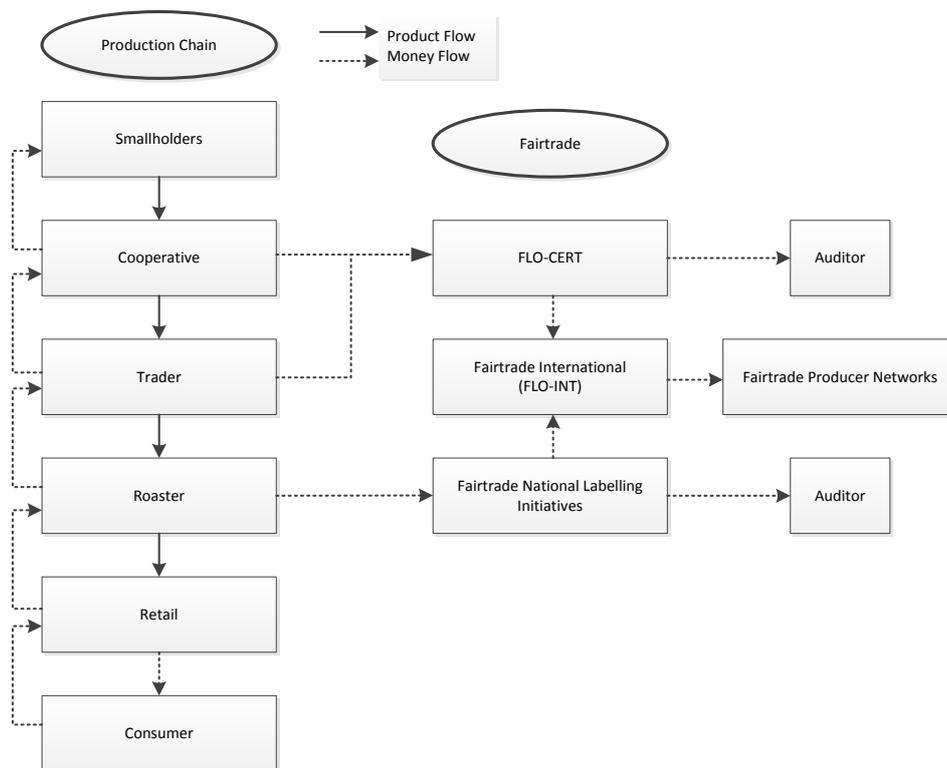


Figure 15 Product and money flow in the Fairtrade coffee supply chain (FLO-CERT, 2013b; Valkila et al., 2010)

3.3 COSTS OF CERTIFICATION: THE DATA

3.3.1 CONSUMER SIDE

The place where the money enters the chain is of course at the consumer side. The money paid for the coffee there flows through the chain towards the producer, or at least that is the idea. It would be reasonable to expect that consumers therefore pay at least a part of the increased costs of production, compared to conventional, non-certified coffee. Observing prices in several Dutch supermarkets provided the prices of certified coffee compared to conventional coffee.

A small data collection was conducted in five different supermarkets in Wageningen and Bennekom, the Netherlands, during November 2015. These supermarkets included Spar, Aldi, Lidl, Albert Heijn and Plus. Since the coffee market has become increasingly differentiated in the last few decades on the basis of technology (Senseo, Nespresso etcetera), the focus was on granulated coffee only. It is still the most sold coffee and can most easily be compared. 34 types of coffee were found with a total of 13 different brands. Per type of coffee several relevant attributes were gathered, such as the share of coffee type (percentage Robusta and Arabica), the size of the package and of course the types and number of certification labels.

Figure 3.3 shows the distribution of coffee prices, structured by the intensity of certification. Single certification includes UTZ, Fairtrade, 4C and Organic certification, while double certification only includes Fairtrade-Organic coffee. 4C certification seems a bit odd in this list. It has only been seen in a low budget supermarket and is considered to have lower requirements than the other types of certification. Officially it is a form of verification (compliance check through self-assessment) rather than certification (third party compliance check). But it is far from the truth to assume that only the type of certificate is decisive. Brands are considered much more than the content of a package of coffee and therefore hard evidence cannot be obtained from simple comparisons. It would be best to use a hedonic price comparison to see the influence of all the different characteristics, such as type of bean, country of origin, shop, certification etcetera, to see which part of the price is explained by these elements. Hedonic price research is beyond the scope of this research, but could be valuable addition in the future.

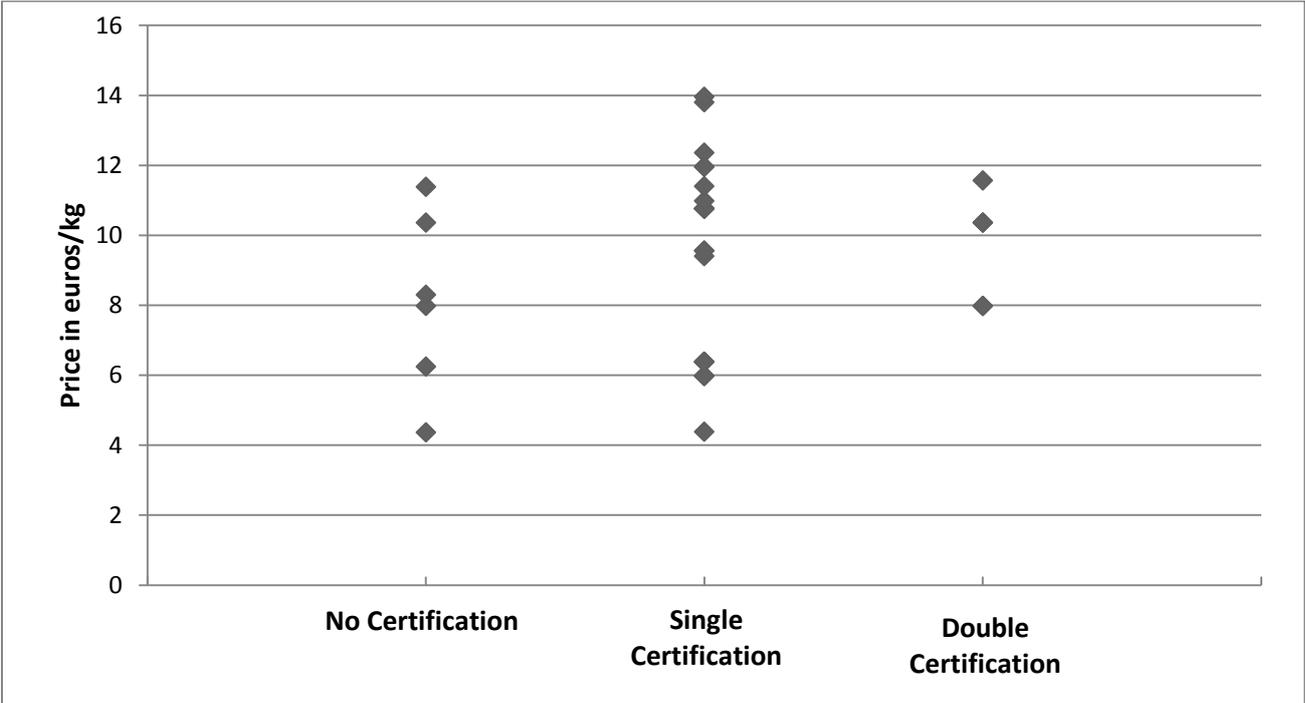


Figure 16 Distribution of coffee prices for certified and uncertified coffees (n= 34)

The graph itself shows that certified coffee has become more common than non-certified coffee. Also single certified coffee is more supplied than double certified coffee. Most of the certified coffee is concentrated in the higher price margins than conventional coffee. Coffees with multiple labels seem to be not more expensive than single label coffee.

UTZ certified coffee seems hardly more expensive than conventional coffee. The cheapest UTZ coffee compared to the cheapest non-certified coffee was 2cts more expensive (in euro/kg), which is close to nothing. Both are granulated coffee, based on a mixture of Robusta and Arabica beans. Since, Arabica coffee is considered to be of higher quality, with milder taste and smell, a higher percentage of Arabica would therefore be likely to lead to more expensive coffee. Within one supermarket this seems to be the case to some extent, but when comparing prices it becomes visible double certified coffee is cheaper than uncertified coffee elsewhere. For instance the UTZ-certified Bellarom 100% Arabica coffee (from LIDL) is about 3 euros per kilo cheaper than the AH Perla, also UTZ-certified, mixture coffee. Higher quality UTZ coffee compared with higher quality non-certified coffee, shows similar outcomes; UTZ is often even cheaper. Based on these simple comparisons the difference between UTZ and non-certified coffee (whether it is Arabica, Robusta or a mixture of both), seems to be of no consequence for the price. So the data¹ suggests that UTZ-certification does not result in higher priced coffee on the consumer side.

Fairtrade shows a different pattern. Fairtrade coffee often comes in two different forms, namely Fairtrade and Fairtrade+Organic. When the coffee is also certified as being organically produced and treated, final consumer price seems to be hardly different from 'normal' Fairtrade coffee. Fairtrade+Organic seem to be cheaper in some cases. Comparing Fairtrade (or Fairtrade+Organic for that matter) with normal or UTZ Certified coffee shows that Fairtrade is often in the higher price range. Contrary to UTZ coffee, there is simply no Fairtrade below 7 euros, and in most supermarkets not below 9 euros. The added price for the FT certificate is best observed in the low budget supermarkets, which provides less choice in coffee and offers often just one single brand. In both low budget supermarkets the price between FT+Org coffee and conventional coffee, both 100% Arabica, is 1.60 euros per kg. This is a price difference of 25%. It is within these supermarkets, unfortunately, not possible to see the difference with normal FT certified coffee. Assuming that FT+Org equals FT, the entire 25% price increase is for the account of FT.

Apart from the observed prices in Dutch supermarkets, literature also provides some rough data on consumer prices, although its reach is quite limited. Valkila et al. (2010) shows a higher price

¹ See Annex 1

for FT certified coffee in Finland, namely about €1.13-€1.36/lb. Fox (2007) provides a lower price difference of around 1\$/lb (€0.86/lb). The origin of this number is a bit vague; clear evidence seems to be lacking. Literature provides hardly any data on the retail margins, which would explain higher consumer prices to some extent. Some remarks are made, for instance by Giovannucci and Ponte (2005) who state that retailers use higher margins for certified coffee, increasing their relative profit. Also Elder et al. (2014) make this statement based on thorough research on retail behaviour concerning certified coffee. But, as few numbers that are provided by the literature, it seems the retail part of the chain increases its profit as well as covering its increased costs. Concluding from the perspective of how costs are covered, the data suggests that Fairtrade shifts at least a part of its costs onto the final consumer, contrary to UTZ.

One final comment needs to be made concerning the consumer costs of certified coffee. The prices shown and observed in this research are all retail prices from supermarkets. But the chain does not only end in supermarkets but also in, for example, restaurants and specialty shops. When it comes to restaurants, the price of a cup of coffee is only to a very small extent based on the coffee itself, which makes it easier to pour more expensive coffee without hurting sales. This is illustrated by the fact that for instance Rainforest Alliance certified coffee is nearly always sold to restaurants and brewed coffee dealers. This is to a lesser degree also the case with coffee sold in specialty shops. People not only pay for the coffee but also for the experience, ambiance etcetera. Certification costs shifted on the final consumer are therefore of less concern, since its share of the price is relatively lower. Additional research can shed some light on these supply chain endings, to investigate how much more expensive certified coffee is compared to conventional coffee.

3.3.2 RETAILER SIDE

The retailer might have higher costs, but purely for the coffee. They do not need to be certified or audited themselves and neither have to make any adjustments to their normal practice. The extra margin roasters demand for certified coffee, which would make the increased retail costs, is difficult to find. The only number provided in literature is not very substantiated. Fox (2007) estimates roasters ask another 0.75\$/lb (€0.66/lb) on top of their normal price, but any context to this number is missing.

3.3.3 ROASTER SIDE

The roaster is the final processor and packager of the coffee which makes it the final link in the certified chain to be checked. Several types of costs are for the account of the roaster. Some direct costs, such as audit costs and membership fees, and some indirect, less lucent costs such as compliance costs.

The roaster has to comply to several rules in order to achieve certification. There is extensive overlap of requirements between UTZ and Fairtrade in this matter, but also some differences. Both certification schemes require an extensive administration system. This system should include detailed reports on how much coffee is bought and sold from/to whom, as well as written agreements between supply chain actors concerning the coffee. This administrative system serves several purposes. In the first place it is meant to monitor compliance with the rest of the rules; a so called internal control/management system (ICS or IMS). If a roaster (or any actor for that matter) can monitor its own compliance in a trustworthy manner, auditors need less time to check the compliance, which reduces costs. Another reason for the extensive administration system is to ensure full physical and administrative segregation of the different coffee flows. The segregation requirements differ to some extent in which UTZ leaves more room for error (10% of the coffee volume (UTZ-Certified, 2015b)). The whole idea behind segregating the streams is to ensure sold certified coffee is also produced as such; tracing back the coffee to its origin. Segregating the coffee comes at a cost, since it requires a totally separate system, both in storage and processing. It is likely that these costs are lower for UTZ because of the acceptable error margin. Providing the exact costs of compliance to these rules is rather difficult, not in the last place because the difference between 'before' and 'after' certification is unknown.

UTZ especially focusses on the administrative and traceability requirements, while FT has additional requirements in place. FT requires compliance with national and FT environmental and labour laws, which is also checked by auditors. Since almost every large roaster is based in the West these requirements seem a bit superfluous. Governmental institutions are already in place to detect law breaking, so it is likely that these requirements were already in place before certification. This reduces these costs logically to zero.

Besides rules concerning production and its circumstances, there are also rules which apply to the use of the label itself. FT checks every final product package with the label to check if it corresponds with regulations. UTZ has also these rules in place, although it is unclear whether this is as extensively checked.

All these rules and regulations as described above need to be checked by auditors. The audits are the next cost for roasters. When it comes to UTZ, audits are arranged between auditors and roasters and have little to do with UTZ itself. These auditors are almost always accredited for several different certificates and it is therefore possible that roasters, or other chain actors, are audited for several certificates at once, reducing cost. FT certified roasters, who are not

responsible for importing the coffee, are licensee of the National Labelling Initiative (NLI)². The NLI outsources the auditing to an independent auditor³. The costs of these audits are included in the license fee. For UTZ the exact size of the audit fees are dependent on several variables and seem to be corporate sensitive information, and therefore difficult to find directly. It is unlikely that the UTZ audit rates differ much from the FLO-CERT rates. According to the license fee document of Stichting Max Havelaar (2015) the costs of an audit is 650 euros/day⁴. It is difficult to say how many days are needed to perform an audit; roasters might differ in size and complexity. In case of non-conformity additional audit days might be needed increasing total audit costs.

The last cost category contains the membership fees. In the Netherlands the FT fee is set by Max Havelaar at 22ct/kg in euros. When the fee exceeds 75,000, the exceeding part is discounted increasingly in several steps. Additional discounting is in place when the roaster has over 90% FT products and is part of a FT network. The FT fee includes all of the regular costs, including using the FT label. When it comes to UTZ an administration fee is charged only once in the coffee chain. The last handler of the unpackaged coffee, which is by definition the packager, needs to pay \$26.50/MT of green coffee. This cost comes, at least directly, for account of the roaster, which is always the chain actor packaging the coffee in order to maintain its sensory quality (UTZ-Certified, 2015a) The total amount is then simply measured by the amount of coffee sold (not produced) as UTZ times \$26.50 equals around 5.2 million euros⁵. Within the cocoa sector a discount is available for buyers of large quantities, up to 30% (UTZ-Certified, 2013); coffee however has no discount applied.

Table 1 Example of membership fees for Fairtrade and UTZ for 5,000MT of certified coffee (Stichting Max Havelaar, 2015)

	Fairtrade	UTZ Certified
Amount of coffee roasted (MT)	5,000	5,000
Fee	€1,100,000	€116,000 ⁵
Discount of fee	€656,250	-
Total Fee	€443,750	€116,000 ⁴
Per kg	8.8cts/kg	2.32cts/kg

² In the Netherlands this is Max Havelaar

³ For Max Havelaar this is Control Union

⁴ This is only paid if an audit visit is cancelled on too short notice

⁵ See annex 1 for calculations

Concluding on the costs for the roasters it shows three different types of costs. In the first place the compliance costs. These costs are not dependent on the quantity of the coffee, meaning they are fixed. The costs for audits are also fixed, since audits are most likely not dependent on coffee quantity either. The third type of cost are the membership fees. For Fairtrade certified roasters these costs are mostly fixed, although the amount of certified coffee sold determines whether there is a discount available. Membership costs of UTZ Certified are variable, since the quantity of coffee sold as certified determines exactly how high these fees are.

It is clear that not all costs are easily measured and even estimated. Making these costs explicit is a difficult task and should be subject to future research. Unfortunately also these costs are considered sensitive information, and therefore companies are not too keen to provide this information.

3.3.4 TRADER SIDE

The model presents the trader as the next actor in the chain. This actor buys the coffee from the cooperatives and sells it to the roaster, which means both exporting and importing are part of its practice. The trader needs to be audited and this implies he should comply to the several rules and regulations. He will also be the first actor to provide the premium (if it is payed at all of course). It is of course highly possible multiple traders are involved and in that case all of them need to be certified. For the sake of simplicity an assumption is made only one trader is involved.

The rules which apply to the trader are quite the same as the rules for the roaster. For FT the checklist is composed by FLO-CERT and this list also serves as the basis for roaster audits by the NLI. UTZ uses the same Chain of Custody standard for all intermediary actors. This means that the focus of the certification criteria for both certificates is on administrative transparency, ICS, segregation and labour/environmental conditions. Coffee traders are more likely to have higher costs for segregating the different coffee streams. The coffee that passes through them is likely to be more differentiated, leading to a more intense need to segregate. FT certified traders do have some additional responsibilities towards the cooperatives they buy their coffee from. They should for instance provide financial means before the coffee is delivered. This can include an interest fee over the provided amount, but a voluntary standard exists to discourage this. The trader should also provide market information towards the cooperatives, so they are able to make well informed decisions. Compliance to these kind of rules comes also at a costs, but its magnitude is unknown.

Again, all of the criteria are checked by auditors. These costs seem to be included in the yearly FT license fee, but not in the initial fee. For UTZ certification, in which audits are arranged between the auditors and licensees, costs are directly for the licensees. The day rates for FLO-

CERT audits is 800 euros/day. This seems a bit odd since costs are likely to differ between different nations, especially when local auditors are used. Also the contrast between the 650 euros/day used by the Dutch NLI and the FLO-CERT rate is remarkable; producing countries tend to have lower wages and costs than processing countries (apart maybe from logistics). The number of days is likely to depend on several variables, so it is difficult to see how high the actual audit costs are.

The FT membership fee for traders consists of two parts, namely the initial certification part and the yearly part. The initial fee for a roaster is around 900 euros, excluding the audit fees and benchmark of the current state towards compliance criteria. The latter would add another 500 euros to the bill. The annual costs are around 4000 euros. Since audit costs are not explicitly mentioned in the yearly fees, contrary to the initial fees, they seem to be included. The fees are paid to FLO-CERT. UTZ does not require a membership fee from the trader at all, which differs from the UTZ cocoa certification regulations.

Both certification schemes involve premiums which are paid to the cooperatives producing the coffee. The direct transfer from the premium is done by the first buyer of the coffee, so the trader is therefore paying the premium. According to UTZ's annual report, in 2013 a total of 17.2 million euros was paid in premiums in the UTZ coffee sector. Although roughly 727 kMT⁶ coffee was UTZ certified, only 224 kMT was sold as such (4C, 2015). On average, taking the 727 kMT as a starting point, the premium would be about 2.4ct/kg in euros, but since the premium is probably paid only to the producers of the 224 kMT, the premium will be about 7.5ct/kg in euros⁷. This premium is subject to negotiation between producing organisations (PO's) and the roaster, and therefore premiums differ per contract. UTZ has no say in these negotiations (UTZ-Certified, 2015b). UTZ has made the premium a mandatory obligation of the first buyer but it does not always seem to materialize, which leads to the conclusion that even less than the 224 kMT has an attached premium to it (Elbers et al., 2014).

Fairtrade uses a premium system which is twofold. In the first place a so called floor price needs to be paid. This only applies when the market price of coffee is lower than this floor price, otherwise the normal world market price is paid. This floor price is set at \$1.05/lb and \$1.40/lb for Robusta and Arabica (both washed) respectively. Compared to the world market prices of the last year (2015) the floor price was higher for Robusta. The world market price dropped from an average of \$0.98/lb in January to an average of \$0.83/lb in October, increasing the difference with the floor price from 7 to 22 \$cents/lb. Arabica coffee was higher priced in

⁶ kMT = 1000 MT = 1 million kg

⁷ According to UTZ premiums are mandatory, yet it's amount is subject to negotiation. It should be more than the administrative costs of the cooperative (UTZ-Certified, 2015a)

January than the floor price, yet in October some prices fell below the floor price (e.g. Brazilian Naturals at \$1.27/lb) (Panhuysen & Pierrot, 2014). It is nearly impossible to find out the exact total amount paid extra as a consequence of the floor price, since it requires individual data of all transactions and the period of when it took place.

The second part of the Fairtrade premium is the social premium. This adds \$0.20/lb of coffee, both Arabica and Robusta. 25% of this premium is labelled and should be used for quality and productivity improvement. When the FT coffee is also organic a differential of at least \$0.30/lb is applied, so \$0.10 cents/lb higher than the normal premium. In 2013 the total sales of FT green coffee was 83,709 MT of which 46% was also organic certified. Simple calculations lead to a suggested total premium paid of around 40 million euros⁸.

Literature sheds an indistinct light on prices paid by certified traders. There are not many well founded studies on this topic which has often to do with the earlier described problem of the counterfactual. This requires that data is measured over time and compared with a control group to account for changes which are not related to certification. Only about a dozen studies provide data that take the counterfactual into account and unfortunately this data is often more focussed on measuring impact than pure costs and benefits.

When it comes to the floor price, Rijsbergen et al. (2014) show that no floor price was paid at all in Kenya. According to Johannessen and Wilhite (2010) the floor price was paid including a premium of \$1.21/lb. Valkila (2010) shows a price payed of \$1.17/lb, although unclear of how this price was formed. Kiemen and Beuchelt (2012) show a price difference of 0.14-0.37\$/lb between conventional and FT-organic coffee. Beuchelt and Zeller (2011) show a price difference of zero between FT and FT-organic, although for both 0.2\$/kg (0.09\$/lb) was payed above the conventional price. According to Consumers International an average premium was payed of 0.04\$/lb for UTZ coffee. Rijsbergen et al. (2014) show that a higher premium was payed for UZT than for FT coffee, namely 3-5% of the normal price. Taken all these studies into account, only the studies by Ruben take the counterfactual into account, which makes its data more reliable. The other studies should not be purely neglected for that reason but can still serve as some indicator. Besides all these costs Johannessen and Wilhite (2010) provide another category which has not been mentioned in other literature, namely increased security and transportation costs. Compared to the normal costs these fees are increased by 15%.

There seems no economic reason for traders to pay a premium, since supply of certified coffee outweighs the demand. Premiums are not always paid, but when they are, this might be for several reasons. According to Blackmore and Keeley (2012) traders sometimes pay extra

⁸ See Annex 2

because they endorse the schemes. Another reason is to ensure future supply. The certified market is still growing as well as the market for higher quality coffee. Ensuring a steady supply generates possibilities in the future to satisfy these markets. This strategy is also described for retailers by Elder et al. (2014), but counts for traders as well.

Concluding, traders face several types of certification costs. In the first place they have costs of compliance. Just as with the roasters it is most likely these costs are mostly fixed. The second types of cost are the audits which are again also fixed; coffee quantity is of no relevance. Membership fees are not demanded for UTZ certification, but with FT they are independent on coffee quantity, leading to the conclusion that this cost is fixed as well. The paid premiums on the other hand, are dependent on the quantity of coffee. Whether it is a floor price or a social premium, both depend on the quantity of coffee bought (and probably sold). At least in theory; reality seems very inconclusive on this subject.

3.3.5 PRODUCER/COOPERATIVE SIDE

The very beginning of the coffee chain starts at the primary producer. Primary producers need to be organised in producer organisations in order to apply for certification. These cooperatives are run by the members themselves. The costs of producer organisations include again clear and less clear costs. Together with the other actors in the chain the less clear costs involve compliance costs, while the obvious costs are audit costs and membership fees.

The lists of certification criteria of both UTZ and FT are quite extensive. The Code of Conduct of UTZ entails nearly 60 pages while FT has an enthusiastic 150 pages of criteria. Comparing both lists shows a major overlap of criteria. UTZ has categorized the criteria into four different categories; FT has several more, but content wise it is nearly the same. The first one is on management. This includes criteria on the Internal Control (or Management) System (ICS or IMS), contracts, use of premium, map of the relevant production area, development plans and training of personnel. The ICS/IMS is a monitoring and control system to check and maintain certification criteria through self-assessment and regulation. Almost everything that happens within the cooperative has to be well documented and is part of the final assessment by an auditor. This includes also every buying and selling action; this in order to maintain physical traceability through segregation. One major point, so obvious it is likely to be forgotten, is that producers should organise themselves into these cooperatives. This is a core issue for both certification schemes. Individual farmers are not able to become certified, so forming an organisation with a democratic structure should be a first step into becoming certified.

The second category concerns farming practice. The criteria focus on the usage and documentation of seedlings, farm maintenance, diversification, fertility and pesticide

management, irrigation and post-harvest product handling. Again everything should be well documented. There is a slight difference between UZT and FT in this matter; UZT description of farming practice is more extensive and detailed.

The third part contains the working conditions criteria. This includes the rules about child labour, forced labour, freedom of association, working hours, contracts, first aid and available worker sanitation. Fairtrade is more detailed on this topic, describing more extensively how workers should be treated and what their rights are. It includes regulations on social security, for instance concerning maternity leave.

The last category focusses on the environmental criteria. This concerns the use of water and energy, dealing with pesticide and water waste and the protection of nature. It even includes, for both schemes, a rule that it is forbidden to hunt on endangered species. UZT has added another rule specifically focussed on coffee, namely the planting of shaded trees.

The way in which compliance is organised is different for UZT and FT. UZT uses a development plan in which the required compliance is increased from 64 to 112 in a period of four years. Besides these mandatory compliance points there are also development criteria of which a cooperative can make a selection to comply to. The number of additional criteria which are mandatory to comply with increases also over this 4-year period. Fairtrade uses a system with three types of criteria, namely 'Core', 'Major' and 'Development' criteria. The first one refers to the fact that a certain rule is a core issue in FT certification and therefore most important to comply with. A 'Major' criterion is less important yet should still be fully complied with. Non-compliance with either a 'Major' or a 'Core' issue can lead to suspension. A 'Development' criterion is less important, although a cooperative should choose several of these development goals obligatory. Rijsbergen et al. (2014) show some of the adaptations made by several cooperatives as a result of becoming certified. Twelve out of twelve groups say they use different farming methods, receive training and spent more on chemicals and fertilizers. To what extent these changes add to the costs is unfortunately not been made clear, but it underlines the fact that farming practice changes with certification.

The costs involved with complying to the UZT and FT rules differ per PO and even per producer, since starting positions differ. This raises a question which is subject to several different articles, namely: how does the starting position influence UZT/FT registration? PO's of which the producers, and the system itself, comply to a large extent to the CoC might be more likely to join certification schemes, since compliance costs are lower. There is no consensus yet regarding this positive or negative selection, but one thing is clear: complying to rules comes at a cost. Literature is also clear on this, yet precise compliance costs are often lacking. Beuchelt and Zeller

(2011) provide some costs on inputs, compared between conventional, organic and FT-organic coffee, but these numbers are far from significant. Blackmore and Keeley (2012) refer to an interview with a coffee manager in which a price of 40\$/MT is mentioned (equalling around 1.5\$/lb), but further context regarding which costs exactly are included in this number is missing.

The second type of cost involved for a producer organisation is the costs of audits. Audits are directly arranged between auditors and PO's; for FT via FLO-CERT and for UTZ via several local auditors. For UTZ the costs of these audits differ per country, region, producer organisation and auditor. Audits are included in the initial and annual membership fees for FT, although "FLO-CERT reserves the right to charge additional costs to the certification fees if established audit costs are exceeded" (FLO-CERT, 2013a)(FLO-CERT, 2013, p. 12. When this occurs the fee is €358/day plus additional travel expenses.

The last cost category for the cooperatives is the membership fee. For UTZ this fee is non-existent; only the roaster pays an administrative fee. For Fairtrade this fee is based on several different parts (this counts for both the initial and yearly fee). The first part is the organisational structure, so whether a cooperative consists of individual members or other cooperatives. A 1st level cooperative consists of individual producers, a 2nd level cooperative consists of several 1st level cooperatives, and a third level cooperative consists of 2nd level cooperatives. The second determining factor of the fee is the number of members per cooperative; larger cooperatives logically pay more. If there is a processing installation as part of the cooperative, the fee is increased which makes this the third part of the fee. When cooperatives want more than one product to be certified the fee is also increased. The final part of the fee is determined by so called sub-contracted entities. These are, for instance, coffee millers under contract by the cooperative, but not part of the cooperative themselves. Since these sub-contracted entities process the coffee they need to be certified as well and therefore the fee further increases. Below an example is given of the membership fee for FT.

Table 2 Example of membership fees for Fairtrade producer organisations (FLO-CERT, 2013a)

	Initial Fee	Yearly fee
1 st order coop. (240 members)	€2,306	€1,835
Processing mill (15 workers)	€420	€184
Total	€2,726	€2,019

Literature provides very little detailed reports on the actual fees paid. Some numbers are mentioned, for instance by Blackmore and Keeley (2012) and Clayton (2011), but these numbers are for a total number of cooperatives, without providing any information on their magnitude or composition. Blackmore and Keeley (2012) state that a large extent of these administrative and membership fees is paid for by commercial partners and NGO's, leading to a smaller financial pressure on the cooperatives.

When looking at all the mentioned costs it has become clear that hard evidence is highly incomplete. One of the most complete estimates so far is provided by Kuit and Waarts (2014). Their estimate provides the total certification costs of 33.70-73.40 €/farmer. This includes €5.04 on the costs of an ICS, €9.41 on producer training and several other, smaller and/or unknown variables. They also mention a yield loss during a conversion period, although it is unclear whether this cost is also applicable to UTZ and FT, and not just to a scheme such as Rainforest Alliance⁹.

Concluding on the costs it seems that most of the costs producer organisations face are fixed costs. The quantity of coffee produced has hardly any influence on the costs that are made. Except maybe for the costs of complying to the certification regulations, in which the size of the farm might have some influence on the final costs. The membership fees are independent of coffee quantity as well as the audit costs. These costs are on the other hand much more dependent on cooperative size. If the costs of certification are mostly fixed from the perspective of the producer organisation, there might be an incentive to increase the number of farmers in a cooperative. However, since there is a huge over supply of certified coffee this will decrease the profits made per farmer.

3.3.6 ORGANISATIONAL SIDE

As explained in Chapter 3.2.1 the certification system itself is also costly. It is relevant to gain insights into these costs to see to what extent these system costs come for account of the SCA's and which part of the costs is covered in other ways. If a large cost share is covered by external donors the cost pressure on the supply chain is less than the actual costs of the total certification system. So in order to provide a full picture of the costs of certification, the additional organisational costs of the organisation should be clear.

As explained previously, UTZ derived the only fees from the roaster, which is around 5.2 million euros (see roaster costs). The rest of the income out of fees is therefore derived from cocoa and tea. As is shown in table 3, the total amount of fees equals 81% of the income of UTZ while the

⁹ Rainforest Alliance has regulations with regard to distance of plants to water boarders, which sometimes results in losing farming area as a result of becoming certified

rest is derived from subsidies and donations. The total expenditure of the external UTZ system involves about 8.5 million euros. Not all of these costs are for the account of UTZ coffee. The share of coffee fees as part of the total fee income of UTZ is around 70 percent. A rough estimate of the coffee related costs, including a share of the fixed organisational costs, could be therefore 70% of the costs, which is around 6 million euros. The coffee certification system of UTZ is therefore for 0.8 million euros dependant on other sources of income, such as contributions, donations and subsidies.

Table 3 Income and expenditure of UTZ Certified

Income UTZ (2013)		
	Amount (in €)	Percentage of Total
Membership Fees	7,644,000	81%
Subsidies and donations	1,836,000	19%
Total	9,480,000	100%
Expenditure UTZ (2013)		
	Amount (in €)	Percentage of Total
Total	8,427,000	100%

Fairtrade shows a more complicated financial system. It has far more products than UTZ and therefore it is more difficult to differentiate which costs are coffee related. As table 4 shows FT has three primary parts. The first is FLO-CERT, officially not part of FT, which directs all its profit to FLO-INT; this profit is a grant. FLO-INT is the centre of the entire Fairtrade system and only receives their funds from grants, fees from national initiatives and interest. Their expenditure is mainly focussed on maintaining the certification system and support of producer groups and market services.

Table 4 Income and expenditure of Fairtrade International (FLO, 2015)

Income FLO-INT (2013)		
	Amount (in €)	Percentage of Total
Membership Fees	8,477,460	54%
Grants (restricted & unrestricted)	5,494,650	35%
Other (interest etc.)	1,726,890	11%
Total	15,699,000	100%
Expenditure FLO-INT (2013)		
	Amount (in €)	Percentage of Total
Total	14,420,000	100%

The exact coffee related income and expenditure are unclear, although a rough estimate can be given based on the share of coffee premiums in contrast to the total amount of premium payed. As previously stated the share of premiums was around 40 million euros while the total amount equals 86 million, so 47% is coffee related, roughly estimated. Using this share on total expenditure gives a total of 6.8 million euros of coffee related costs. Using this share again as an indication of coffee related membership fees, a total of 4 million euros is derived from the NLI's, leaving 2.8 million euros coming from other sources of income.

The third part of FT are the national labelling initiatives. These initiatives, such as Max Havelaar in the Netherlands, pay a fee to FLO-INT which is a percentage of the administration fees received. Below Max Havelaar is used to illustrate how income and expenditure might be formed for NLI's.

Table 5 Income and expenditure of Max Havelaar (FLO, 2015)

Income Max Havelaar (2014)		
	Amount (in €)	Percentage of Total
Fundraising (by MH)	18,845	0.4%
Fundraising (others)	2,077,314	43.2%
Subsidies	15,000	0.3%
Investments	17,337	0.4%
User Fee's	2,515,412	52.3%
Sales of Materials and other fees	161,647	3.4%
Total	4,805,546	100%
Expenditure Max Havelaar (2014)		
	Amount (in €)	Percentage of Total
Total	3,926,930	100%

Max Havelaars income is almost entirely coming from fundraising and user fees; other sources of income are negligible. Around 44% of the user fees, about 1.1 million euros, are coming from coffee handlers and processors for an amount of 5,300 MT (roasted) coffee. A simple calculation leads to a fee price of almost 0.21€/kg, which is payed for by the coffee sector. A rough estimate of coffee related expenditure can be found by assuming that the same percentage of coffee related fees counts for the total expenditure. This would give the coffee costs of 1.7 million euros, of which 0.6 million euros is derived from other sources of income than fees from supply chain actors.

With the estimates from both UTZ and FT it becomes clear which part of the costs made by the certification organisations is withdrawn from the coffee supply chain and which part is derived from other sources of income (grants, subsidies, fundraisers, etcetera). Overall, the organisational costs seem to be not very high, especially as long as not the entire costs come for the account of the least well-off SCA. In the case of FT the 6.8 million euros is for 83,709 MT of coffee, which is around 8cts/kg. For UTZ the organisational costs are 6 million for an amount of 224,028 MT of coffee, which comes down to an average of 2.5cts/kg. Compared to a hypothetical consumer price of 8 euros, FT organisational costs are around 1%, while UTZ costs are around 0.3%. As stated earlier, part of this price is not covered by consumers (or producers), but by external actors.

Table 6 Overview cost coverage UTZ Certified and Fairtrade Source: see references earlier tables

	UTZ (amount in €)	Fairtrade (amount in €)
Costs Covered by SCA's	5.2 million	2.6 million ¹⁰
Costs Covered by other sources	0.8 million	4.2 million
Total Coffee Related Costs	6 million	6.8 million

3.4 CHAPTER SUMMARY

The goal of this chapter was to provide an overview of the data on certification costs. Section 3.2 provided an overview of the types of costs in the supply chain subsequently followed by a description of how the two different certification schemes attach to the supply chain. Using this structure Section 3.3 provided an overview of all the different certification costs with, where possible, an estimation of their size. It also included some remarks on whether certain cost is dependent on production quantity (variable costs) or not (a fixed costs).

Figure 3.4 shows a summary of all the different costs involved with some adjustments compared to how they were presented in the previous section. Some remarks are in place: in the first place, there has been made no difference between Arabica and Robusta. This difference, although relevant, is hardly maintained in the literature. Some costs, such as retail prices and premiums, are likely to be different depending on the type of coffee, but the available data is hardly conclusive on this. Secondly, FT premiums have changed. The data from the literature is mainly based on the old floor prices and premiums, but in 2011 FT adjusted these prices upwards. The reason to neglect this difference is that post-2011 data does not suggest much higher premiums payed (E.g. Woubie, Muradian, & Ruben, 2014), which is curious. The third remark concerns the organisational costs which are covered by other sources than the SCA's. The number of 4.2 million euros for FT is higher than the actual amount derived from external sources. It includes the net profit from FLO-CERT as a grant, while this profit is derived from the supply chain. The difficulty is that the exact amount of this 'grant' is unknown.

¹⁰ See Annex 2

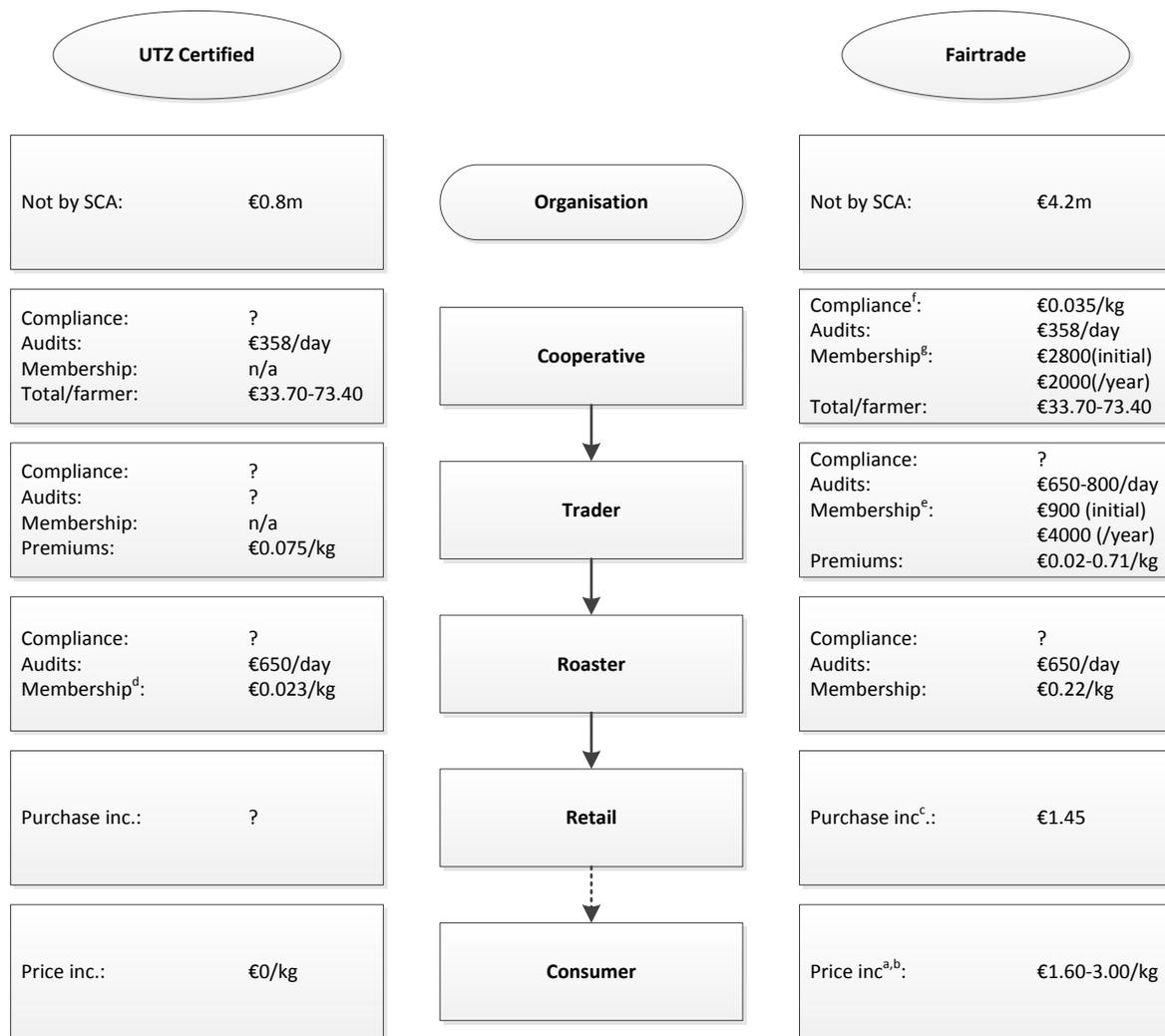


Figure 17 Summary of certification costs (see references in previous tables and figures)

The overview shows costs in all directions. The extra costs of consumers goes directly to the retail sector. The only costs of the retail sector are increased purchase costs as mentioned, although this is not exactly clear. Retailers have an advantageous position, since certified coffee supply outweighs demand by far. They are not obliged to pay more for certified coffee where for instance traders are obliged to do so (especially in the case of FT). Therefore it is remarkable that consumers pay more for FT coffee, which is even more than the estimated increased roaster price (€1.45 to the roaster versus €1.60-3.00 for the consumer). This suggests that higher consumer costs are, at least to some extent, increasing retail revenue rather than covering increased costs. This has also been mentioned in several studies (E.g. Blackmore & Keeley, 2012; Elder et al., 2014; Giovannucci & Ponte, 2005). It also points to an even more interesting point, namely that the certified coffee chain works less efficient than the conventional chain in shifting consumer money to the primary producers (which seems especially true for FT). According to Kiemen and Beuchelt (2012) the share of the retail price that reaches the farmers is 30-42% for

conventional coffee, while being only 13-21% for FT coffee. Johannessen and Wilhite (2010) together with Valkila et al. (2010) share in this observation, stating that the Farm Gate Price is relatively lower for FT coffee than for conventional coffee. Also some other, methodologically more decent, studies such as Ruben and Hoebink (2015) state that although farmers receive a slightly higher price, the relative price is lower. This leads to the conclusion that the certified coffee system, at least in the case of FT, works less efficient than the conventional chain.

Another issue concerns who is bearing all the extra costs. Although the provided data is insufficient to make bold statements, it suggests several things. In the first place, consumers pay more (for FT, not UTZ). Although part of this extra payment is likely to only reach the retail sector, some of it flows into the chain. Other sources of funds are obviously NGO's and other donors. Both at the cooperative side and the organisational side costs are covered by direct funds from external donors. This dependence seems much larger with FT than with UTZ, although exact data on NGO funds on cooperative level is missing. The costs that are not covered by NGO's or the consumer, are logically covered by the supply chain itself. This leads to the conclusion that SCA's bear some of the costs themselves. For the cooperative level this is clearly evident in several impact studies¹¹, which show although coffee prices may rise, overall the financial benefits are swallowed by the increased costs. Traders and roasters are also likely to cover some of the costs. In the case of UTZ the roaster pays for the administrative fees, while final retail prices are similar priced as conventional coffee. This suggests roasters cover this price themselves.

¹¹ Kuit and Waarts (2014) provide a list of decent studies which take the counterfactual into account. The recent book by Ruben and Hoebink (2015) provides more studies on this.

CHAPTER 4: CONSUMER DEMAND EXPLAINED

4.1 INTRODUCTION

Chapter 2 provided a theoretical perspective on the way the market for certified coffee is influenced by several factors. In the first place the costs, either fixed or variable, showed to have an impact on market prices, sales and efficiency. Chapter three provided real data on these costs as well as an overview of whether these costs are fixed or variable. But apart from the costs also consumer demand is of great influence on the certified coffee market, as was also shown in the model in Chapter 2. An interesting but yet unanswered question is how this consumer demand is formed and influenced.

Section 2.3 mentioned the study from De Janvry et al. (2010) which provided a model that included that the consumer demand depends on several different aspects. Apart from the price of the product the study states demand is also shaped by whether consumers value the extra payment for poor farmers and the extent to which this extra payment materialises. A final distinction is made with regard to other attributes of a certified product, which might be valued by consumers¹². This model assumes consumer demand is dependent on several other aspects than price alone. The study by De Janvry et al. (2010) does not aim to exactly explain consumer demand, although it suggests the effectivity of certification schemes have influence on the market. Fortunately the number of studies on consumer behaviour concerning certified products is still growing, providing valuable information on the way consumer demand is shaped.

This subject might be tightly connected to the subject of donor money. There are reasons why donors choose to spend their money on a certain certification scheme, which probably has significant overlap with the reasons why consumers buy certified coffees. Previous chapters have shown the extent and relevance of this donor money for the system as a whole. Therefore this chapter will provide insights from literature on the subject of both donor and consumer preference for certified goods.

Section 4.2 will provide a concise overview of the reasons why consumers are attracted to certified (food) products in the first place. This is subsequently followed in Section 4.3 by an explanation of what drives the consumer demand for Fairtrade and UTZ Certified coffee. Finally

¹² The demand function provided by is: $Q_f^D = \theta + \alpha\pi - p_f$ "...in which θ equals the intrinsic benefit of the consumer from the inherent attributes of FT coffee, π is the profit for certified producers and α is the altruistic preference weight consumers place on producers' welfare" (De Janvry et al., 2010, p. 3)

Section 4.4 will provide a short overview of this chapter and summarize the most important findings.

4.2 WHY CONSUMERS BUY LABELLED PRODUCTS

Buying behaviour of consumers has been subject to many studies. For a variety of reasons scientists have tried to find out what makes consumers buy certain products. A very extensive study has been written by Senauer (2001) on what shapes the consumer demands of food products in high income countries in the 21st century. He states that food is no longer a homogenous good as it often was for most people in the last few centuries. Demand for food products is increasingly by quality attributes and less by factors such as income. A quality attribute can be anything from which a consumer derives some kind of utility (Andorfer & Liebe, 2012), including all sorts of product attributes. Senauer (2001) states that the consumer has become increasingly differentiated and individualized, leading to an even broader scale of consumer preferences.

Unfortunately not all types of quality are easily measured by the consumer himself. A consumer can distinguish between what he finds sensory pleasant, but is unable to analyse a quality at a deeper level. A consumer is for instance not able to see how a product affects his health or how it is produced, at least not by himself. This was more visible than ever during some major crises and scandals in the food industry. According to Jahn, Schramm, and Spiller (2005) food crises, such as BSE in the UK and Europe, decreased consumer confidence in the food industry considerably, leading to an incentive for this industry to reclaim trust. Although this relates in the first place to food safety, its merit has been growing towards other quality attributes as well. Therefore new (food) product policies were implemented for several reasons (Padilla, Villalobos, Spiller, & Henry, 2013). Hobbs, Fearne, and Spriggs (2002) describes three drivers of change why these policies were implemented. In the first place the previously mentioned food scares of the consumer. Crises need to be addressed before they happen, to prevent in the first place damage to the consumer, but also damage to the industry. The second driver for change is external, namely the demand for certain product attributes in other countries. Export increased the need for ensuring certain product attributes were included. The third driver for overarching standards mentioned by Hobbs et al, is the proliferation of standards as a result of absence of government interference. Different corporate standards emerged as a result of this absence, which made standards purely a means of differentiation.

The fundamental question regarding these drivers for new standards is how can product attributes be ensured? The industry itself had failed to provide adequate security, which had considerable consequences. Something as important as food safety is a concern of a government,

which logically led to the increasing attention for official safety authorities. Other product attributes are of less concern for the government, but for the consumer they are increasingly important. The use of certified labels that guarantee product attributes is an instrument to address this issue. By outsourcing the ensuring of a product quality to an independent agency, firms are able to win consumer confidence, while consumers have an increased security that the product they buy is actually living up to its presumed quality attributes.

Consumers are willing to pay extra for such a label, as the research of Padilla et al. point out. Consumers are more in favour of a product containing an official quality label, maintained by a trusted organisation. The researchers state that producers can increase their price, which itself has a negative effect on demand, if they include an official quality label. This leads to their conclusion that labelling is a way of creating a niche market which will differentiate the market for a product as a whole (underlining a whole range of literature they mention as well). They finally remark that the communication and promotion of the label will have further positive effect on demand.

The research described in the previous paragraph provides general conclusion on the basis of a quite specific research. They provide some points of discussion concerning their outcomes which suggest the way in which labelling works is product specific and label specific. The goal of this chapter is to shed light on the factors that drive the demand for certified coffee, more specifically the demand for Fairtrade and UTZ Certified coffee. Therefore the following section will focus increasingly on these certification schemes and how they affect consumer preference.

4.3 CONSUMER PREFERENCE FOR UTZ CERTIFIED AND FAIRTRADE COFFEE

In order to understand what drives consumer demand for certified coffee it is important to find out why consumers buy certified coffee and for which specific attributes they are willing to pay more. Both Fairtrade and UTZ Certified coffee fall in the category of ethically produced goods. This means that the reason why consumers buy certified coffee will have overlap with the overall reason why people buy ethically produced goods. This section will provide an overview of the reasons why consumers buy these goods in order to see what it is that shapes consumer preference. Subsequently it will also show why people might choose for FT certified goods (including coffee) as compared with for instance UTZ Certified. These certification schemes differ in their approach which has an impact on consumer preference.

The first reason why consumers buy certified products is because they feel some sense of responsibility “towards society and personal concerns for one or several ethical issues” (Langen, 2011, p. 412). These concerns can be focussed on environmental issues such as soil degradation and forest preservation, or for instance on issues such as social justice and labour standards. As

was pointed out in Section 4.2 these issues coexists with the more traditional factors that drive demand, such as quality and price; or it can simply be seen as an invisible quality or credence quality. Buying ethical products is some form of ethical behaviour as was pointed out by Langen (2011). She found that buying ethically produced goods comes for nearly a quarter of the respondents at the expense of other ethical behaviour, such as donating to charities. The extent of the ethical behaviour is highly influenced by how consumers perceive themselves as part of a larger world. Starr (2009) concludes on her research on the socio economic factors of ethical consumption that education is positively associated with buying ethical goods. If people are well educated on the social, environmental or ethical effects of their individual consumption patterns, they are more likely to buy ethically produced goods. This finding suggests an increased sense of consumer responsibility contrary to the motivation of 'adding to the good cause' as is often the case with donations to charities (Langen, 2011).

The extent to which people are willing to buy certified goods is constraint by whether consumers believe their actions matter. This has several implications. In the first place it shows that it is important whether certification schemes live up to their ideals. As Section 2.1 pointed out: literature on certification impact is highly inconclusive. De Janvry et al. (2010) modelled that in absence of a positive impact demand decreases. This is line with the research of Basu and Hicks (2008) who researched what the exact influence is of certification impact on consumer demand. They provided respondents with information regarding the label performance (Fairtrade in this case). This information concerned hypothetical benefits of the certification scheme on poor coffee growers. They used subsequently an econometric model to analyse the effects of this information. They conclude on this matter that consumers are willing to pay more if growers are really better off, but only up to a certain point. The research was conducted in both Germany and the USA and in both countries they found that if certificate beneficiaries received more than 50% extra, consumers were less willing to pay a price premium (in Germany at 55% and in the USA at around 70%). As grower income increased further, respondents were willing to pay a declining premium. Figure 4.1 shows this phenomenon clearly as an inverted U-shaped curve. The impact of certification schemes is therefore an interesting driver of consumer willingness to pay and therefore consumer demand. If a label is performing well, demand goes up, but if it is doing too well, *ceterus paribus*, demand is stagnating.

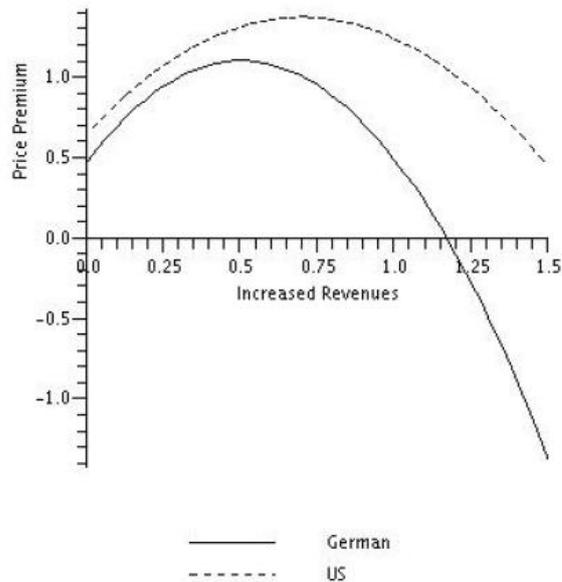


Figure 18 Price premium and label performance: revenue increase (Basu & Hicks, 2008)

The belief in whether a certification scheme works is not only dependent upon its real performance, but even more on how consumers perceive the label; whether consumers think it works seems more important than if it actually works. Their information is highly imperfect and often mostly dependent on the marketing department of the certification agency or coffee firm. There is not much explicit research on this subject, but studies such as Loureiro and Lotade (2005) implicitly show the importance of consumer information.

There is another reason why consumers are willing to buy certified coffee. The same study by Starr (2009) provides another interesting conclusion. She found that people are more likely to buy certified coffee when people around them do too. This has to a large extent to do with the relevance of social norms. Acting consistent with a social norm provides an extra benefit to the consumer. Starr (2009, p. 918) explains it as follows: "...social benefits of ethical consumption depend how widely practiced it is: if people concerned with ethical consumption are rare, then consuming ethically oneself may have minimal social benefits, but as it becomes more common, its benefits may rise, especially if its practices gain the status of social norms". As the quote implicitly states, the benefits of acting in compliance with social norms is twofold. In the first place the act itself is relevant. People seem to be more sensitive to social norms if they can identify themselves to a larger extent with the people that surround them. If people think their close peers consume certified coffee they are more likely to do it themselves.

The other reason Starr (2009) mentions is social status. Acting in compliance with the social norms is in this regard more focussed on whether others see the act rather than doing the act.

Buying certified coffee is therefore an instrument of increasing social status. Starrs (2009) summary of the work by Pedersen (2000) states that buying certified products enables people to project a 'positive social image'. This is also linked to the extent to which people identify themselves with the people that surround them. The projection of a 'positive social image' is much more relevant when others perceive it equally as something positive. But the influence of social status might be of very little consequence for the actual consumer preference in the case of coffee. The type of coffee someone uses is mostly invisible, so the act of using certified coffee is not witnessed by others. This means there will be no status benefits of using and buying certified coffee.

So far the reasons why consumers buy certified goods have not been specifically focussed on the two certification schemes which are subject to this research. Certification schemes work in different ways which might have influence on how consumers respond. Fairtrade has a significantly different approach than UTZ Certified: Fairtrade's focus (in short) is on the payment of a social premium while UTZ Certified aims at increasing productivity of farmers.

The difference in the response of consumers on the mechanism used by certain labels is thoroughly researched in the specific case of Fairtrade by Koppel and Schulze (2013). The starting point for their research is whether the increased consumer willingness to pay a premium price for certified coffee, is solely relying on specific Fairtrade attributes (as addition to standard product quality). They hypothesize that the mechanism of Fairtrade is an important factor in explaining the demand for Fairtrade coffee. Therefore they invented an experimental setting in which they tested four different treatments. The first treatment involved the normal Fairtrade situation in which people had to choose between a standard coffee and a Fairtrade coffee at a 20% higher price. The second treatment provided the respondents with only one type of coffee but also with the ability to make a direct donation to the producers of Fairtrade coffee. The third and fourth treatment served as control treatments. The third treatment tested whether different product attributes of FT with regard to standard coffee are the reason why consumers buy FT coffee. Therefore respondents had the option to buy the same coffee at either the normal rate or with a 20% premium, in which the premium would be donated to some relief project for smallholders (not FT). The fourth treatment was put in place in order to correct for the way in which consumers perceive Fairtrade as a similar charity as the charity presented in option three. Therefore the researched provided the same option as in the second setting with the difference that the donations would not go to FT farmers but to the same charity used in treatment three.

The outcome of this research is very interesting. It shows that the mechanism of transferring funds is more important than the specific attributes of Fairtrade. Figure 4.3 shows the outcome of the research, in which the difference between the first and the second treatment, and the treatment between the first treatment and the third treatment, are most interesting. The first comparison shows that an indirect transfer of a donation (via product price) is way more efficient than via a direct donation. This comparison does not adjust for the attributes of the product itself and therefore the second comparison (between T1 and T3) shows that the same donation mechanism used for a different product is still way more effective than a direct donation to Fairtrade.

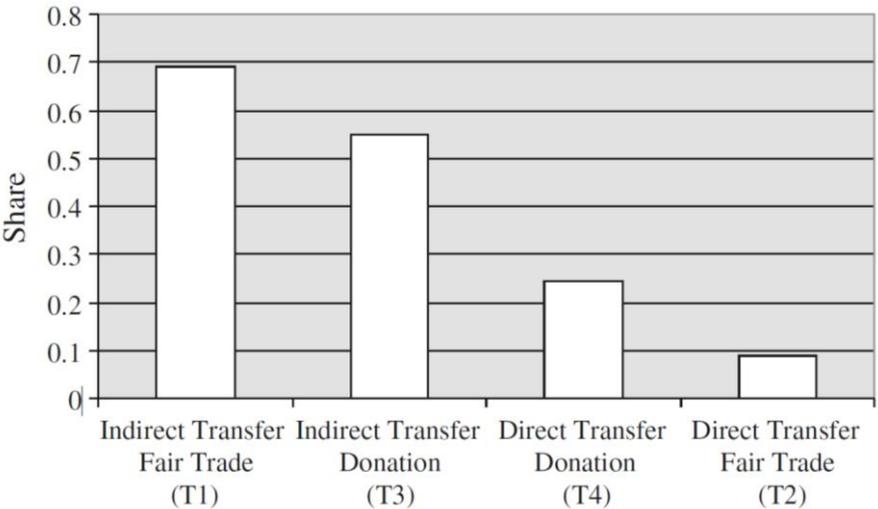


Figure 19 Share of people donating ten cents per treatment (Koppel & Schulze, 2013)

After the experiment the researchers conducted a survey to explore the motivation behind the donating behaviour of the respondents. The results are also useful for this research because it shows how people perceive Fairtrade, which might at least explain some part of the increased WTP. A large share of people see Fairtrade as a way of providing development aid and increasing standards of production. Buying a product against a premium price is also seen as a donation, although less often (explaining why the donation share to FT is lower in the fourth treatment than in the first). Almost forty percent of the people also associate FT with a good feeling; an intrinsic reason for consumption as also described by for instance Andreoni (1995).

Since some part of the increased WTP for Fairtrade products can be explained by how people perceive the label, it would be interesting to see if there is a difference between Fairtrade and UTZ Certified in this matter. Unfortunately not much research has been conducted on the consumer perceptions of the UTZ Certified label, although some researchers have provided remarks on this. Oosterveer and Sonnenfeld (2012) state that Fairtrade and other labels, such as

UTZ Certified and Rainforest Alliance, are competing in the same market. UTZ Certified is, contrary to Fairtrade, seen by retailers and roasters as a marketing tool, although farmers perceive it as a way of getting better market access. It is yet unclear if consumers are agreeing with either the farmers or the retailers, although (Soto & Le Coq, 2011, p. 324) provide the following remark: "Nevertheless, consumers do not perceive differences among labels, but maintain the perception that every sustainable coffee label guarantees environmental protection, appropriate social conditions and a fair price for farmers". Unfortunately this comment seems unsubstantiated, but if it were true the way in which consumers perceive different labels has become irrelevant in explaining the difference in demand within the certified market.

4.4 CHAPTER CONCLUSIONS

This chapter has provided some answers on the factors that shape the demand for certified coffee. Section 4.2 showed why consumers are attracted to labels in the first place, namely because it provided them with a sense of security. Buying a labelled product has a higher chance of ensuring a certain quality for consumers. This increased sense of security comes at a cost, but consumers are willing to pay more which helps to overcome this cost.

Section 4.3 provided a more detailed story on how consumers are attracted to ethically certified products which includes both UTZ Certified and Fairtrade coffee. The first reason why consumers buy certified coffee is because of a 'sense of responsibility'. Consumers are increasingly becoming aware of the impact of their buying behaviour on situations in poorer areas of the world. Therefore they are more willing to take responsibility by trying to reduce the negative externalities that result from their actions. Educating people in the consequences of their action increases this effect and therefore the demand for certified coffee.

The extent to which consumers buy certified coffee is constrained by whether certified coffee achieves its goals. The research presented showed the relationship between this certificate impact and the buying behaviour of consumers. Consumer demand is increased if they think farmers are provided with an increased income, but only up to a certain point. There might often be a difference between whether consumers perceive it as something that works or that it actually works. If certification would really work, an increase in transparency and information provision would benefit sales.

Another reason why consumers buy certified coffee has to do with social norms, both in an intrinsic and extrinsic way. Consumers derive utility of acting in accordance with social norms, also if this is not noted by others. If it is noted by others, utility will benefit to a larger extent. This is especially the case if people identify themselves with the people that surround them.

From a perspective of demand this might result in clustering of consumers buying certified coffee. If people buy certified coffee it is more likely people around them do too, creating a snowball effect.

There might be an important difference between UTZ Certified and Fairtrade concerning the way demand is shaped. The research by Koppel and Schulze (2013) showed the importance of the mechanism used by Fairtrade, of using the extra premium paid by consumers for increased producer income. Consumers were much more willing to spend money on a product if they thought the extra premium was transferred to the farmer. This worked much better than direct donations. The conclusion was that this mechanism has much more influence on consumer demand than the specific attributes of a certificate. It might be the case that UZT is perceived similar as Fairtrade, although they work differently. Consumers are increasingly confused by the ever increasing number of certificates and therefore it is highly likely they can hardly distinguish between different labels, let alone how they work. So although the mechanism of Fairtrade is successful in increasing consumer demand, this effect might not be limited to Fairtrade demand only.

Section 4.1 raised the issue of the similarity between consumer demand and the reasons why donors provide funds to certification schemes. Some of the reasons as described previously are limited to the market for certified coffee, such as the importance of the transfer mechanism. The results to the survey conducted by Koppel & Schulze showed Fairtrade is perceived as 'development aid' as well as 'doing good', which might also explain the reasons for donors to give. These reasons will, just as with the consumers, be constrained by the question whether the certification schemes live to their ideals and are able to deliver on their promises. A decrease in certificate performance will most likely also lead to a decrease in donor money.

CHAPTER 5: IN RETROSPECT

5.1 SUMMARY

The market for coffee has considerably changed in the past few decades. Its magnitude is still growing, making coffee one of the most traded commodities in the world. But apart from its size, its composition changed. Where coffee was originally a homogenous commodity it has become a highly differentiated good. The available coffee differs in country of origin, type of coffee bean, roasting method, composition etcetera. But apart from these attributes the last twenty years have seen the emergence of another type of coffee: certified coffee. This type of coffee provides another type of quality, often based on how it was produced or traded. The market for certified coffee has considerably grown up to a point at which most coffee is certified.

The certified coffee market differs in several ways from the standardized market. It involves extra costs, due to additional product requirements and the involvement of an external certification agency. Also the factors that shape consumer preference are different. Certification costs together with the change in consumer preference shape the price differences between the standardized market and the certified market. This research focussed on the question on how certification costs and consumer preference for certified coffee shapes the price for certified coffee.

In the first place this research provided the economic perspective in order to understand the dynamics in the coffee market. The economic theory of monopolistic competition proved very useful in analysing the certified coffee market. Chapter Two explained the theory of a monopolistic competitive market, in which a product is constantly differentiated in order to achieve a profit. Certification can be seen as another way of differentiating a good, but against higher costs. Chapter 2.2 provided a model of analysing the influence of certification costs and changes in consumer preference in several difference areas, using a numerical example to shape the supply and demand situations. In the first place the consequences of increased fixed certification costs. An increase in these costs, according to the model, will lead to a decrease of economies of scale for firms in the short run. In the long run, in which the number of firms in-/decreases to the point in which profits are zero, an increase in fixed costs will result in higher efficiency for firms, although the number of firms will be reduced. The price for consumers will increase. An increase in variable costs will cause the quantity sold in the short run to decrease, while its price will increase. In the long run the number of firms will be reduced although the number the firms still in the market will produce more efficient, because their excess capacity will be reduced. Consumer are facing a higher price as a result of higher variable costs.

Apart from changes in certification costs, it is also possible consumer preference will change, for instance as a result of increased certification impact. This will cause consumer preference to increase, leading to higher sales against higher prices in the short run. It also causes a decrease in the excess capacity of firms, increasing firms' scale advantages. In the long run the number of firms in the market will increase, while producers face higher prices. They are willing to pay this higher price because they have more buying options. The producing firms face higher scale advantages in the long run as a result of an increase in consumer preference.

The literature summarised in the beginning of the second chapter showed that the changes as explained in the theoretical part are reasonable. Consumer preference might change as a result of changes in impact, while certification costs might change as a result of several factors. Some costs are covered by external donors, which is likely to reduce indirect cost pressure on firms in the market. Donor behaviour will therefore influence the market equilibrium. Also changes in certification policies, or increases in number of certificates will have its effect on the market.

Chapter Three focussed subsequently on the actual costs of certification for two different certification schemes, namely UTZ Certified and Fairtrade. Although the main focus of this research on the final coffee market, costs made earlier in the chain are likely to have an effect if they are passed along the chain. There are several different costs for almost every actor in the supply chain. These types of costs include compliance costs, certification fees and audit costs. It was shown that some costs are considered fixed costs, such as certification fees (in case of FT) while other costs are dependent on production quantity (premiums and fees in the case of UTZ Certified).

There are some noticeable differences between FT and UTZ. Consumers pay less for UTZ Certified coffee, while Fairtrade coffee is more expensive than standardized coffee. This is an interesting finding, since acquiring UTZ Certification involves costs which need to be paid by someone. This finding can be theoretically explained by the model of monopolistic competition. As a result of certification the average total costs of a firm will change. This does not necessarily lead to a higher price if a firm is able to produce more efficiently as a result of becoming certified. So although higher overall costs are made, consumer prices might remain the same.

The overall costs in the supply chain are higher with Fairtrade than with UTZ Certified, which is especially visible when it comes to the required certification fees. The most important question is who is paying for these extra costs. In the case of Fairtrade it might be the consumer, although this is countered by the argument that retailers are using the increased consumer willingness to pay to gain access to additional rents for their own benefit. Therefore the funds derived from consumers might eventually not end up with the primary producers. Another issue concerns the

enormous over supply of certified coffee, which provides roasters with a much better negotiation position (the same argument counts for the trader). This might lead to lower costs for the roaster while producers face higher costs. This issue is exacerbated even further by the methods of UTZ Certified. Their aim is on increasing productivity at the farmer side, which will eventually only lead to an increase in over supply. From the perspective of the coffee roasters this might lead to a further decrease in production costs, and may lead to higher profits as shown in Chapter 2. This can, in turn, be also another reason why UTZ Certified coffee is not more expensive than standardized coffee.

These issues do not only affect the cost side of the market, but also the demand side. Chapter Four provides reasons why consumers buy certified products. People perceive certified coffee as a means to take responsibility for the consequences of their individual consumption. But if certification has less, or even a negative, impact than hoped for, consumer preference will decrease resulting in the scenario described in Chapter Two: the market shrinks and prices go down. This exacerbates the already mentioned problem of oversupply. Although positive impact of certification labels does not limitless increase consumer preference, it seems the current certification situation is far from reaching that point.

Another driver for consumer demand for certified coffee is the mechanism it uses. Assuming consumers see little difference between labels, the mechanism of certification systems is seen as the success factor in providing benefits to poor producers. Although not directly researched, it is likely that a neutral or even negative certification impact leads to an undermining of this driver. If certified coffee proves to be an ineffective, or even failing, system of transferring funds to poor producers, consumers will be less likely to buy, leading to a snowball effect since people are likely to act similar as people that surround them. Although social norms might not necessarily change, the way in which people act accordingly might.

5.2 CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This research focussed on the way in which the price of certified coffee is shaped, especially in the light of certification costs and consumer preference. It has shown the importance of the nature of certification costs on the coffee market. Certification costs are either fixed or variable, in which both have a different impact on the final coffee price. In combination with changes in consumer preference the extent to which certification costs might be shifted onto the consumer differs.

Unfortunately research suggest that consumers might be especially paying for increased roaster and retail profits. The market for certified coffee is less efficient in transferring funds to primary producers compared to the standardized market, which puts even more pressure on the

effectivity of certification schemes. Especially when certification standards are becoming mainstream, the costs for primary producers is likely to outweigh the benefits. The basic problem of the crooked distribution of profits in the coffee market will in the worst case scenario be exacerbated by certification.

This research has provided a broad economic perspective on the impact of emerging certified markets, both in the short and the long run. It therefore helps to understand the many different certification studies conducted. It has shown for instance the relevance of impact studies for consumer preference as well as for certification efficiency. It has also shown the importance of consumer preference on the market, which can be helpful in predicting consequences of policy changes for the certified coffee market. The often neglected issue of certification costs is in this research placed in broader context, showing that these have significant impact on the efficiency of the market. This study has also provided an overview of the, rather meagre, research and data available on these certification costs.

Apart from the contributions this research makes it suffers from some limitations. In the first place it should be clear that the focus of this research is mostly on the final consumption market. The dynamics it focusses on are especially taking place in the final stages of the supply chain, leaving dynamics earlier in the chain mostly unattended. The efficiency of the certification system is to a large extent also shaped by relations earlier in the chain, for instance between trader and cooperative. These relations have not been subject to this study. Another limitation is involves the data and especially the related analysis of consumer coffee prices. This part of the research can only be used as a descriptive instrument; further analysis, such as hedonic pricing, is required in order to draw more substantiated conclusions from this data.

Other limitations concerning this research are mostly the effect of the absence of data. There is very little data available on the exact costs of certification for instance, due to several obstructions. In the first place there is simply a lack of research focussing on these costs. At the farmer level most data is focussing on whether certification has impact, while exact data on costs and received premiums seems missing. In the second place there is an enormous lack of transparency in the supply chain. Although this can be partly explained by corporate secrecy, it would benefit the certification discussion considerably if more data became available. Also auditors seemed not to keen on providing details on the fees they charge, as became clear during the process of data gathering. In the third place there is also a lack of transparency at the level of certification agencies. Although fee documents and annual reports are mostly available, detailed data is not provided. Again, this might have to do with the issue of secrecy of clientele, but this data would be of considerable value for further analysis of the certified market.

These limitations and obstructions lead to a range of recommendations, for both researchers and involved actors in the certified supply chain. In the first place it would be highly recommended to conduct broad and deep research into all the different aspects of certification costs. Data on paid fees is relatively easy to come by, but this is much different for something as complex as compliance costs. Secondly, it would be beneficial to find to what extent the consumer price is influenced by certification, especially in a longitudinal way. This can provide valuable data on how the certified market is developing. One way to do this is via hedonic pricing, to see which part of the consumer price is explained by the label it carries.

Other recommendations concern supply chain actors. It is highly advised roasters and retailers, look critically at the information they provide on their certification practice and influence. This is a difficult issue for many obvious reasons, but a strong plea is made for the case of those vulnerable chain actors with considerable less market power. Also certification agencies, such as the organisations of UTZ Certified and Fairtrade, can make additional efforts in providing researchers with relevant information concerning certification practice. Nowadays these agencies seems to focus much more on, often unsubstantiated and shallow, certification benefits rather than on the search for improvements.

Overall this research is critical in its final retrospect of its findings. Certification was in its beginning an inspired instrument for change of market relations, but it might (have) become an instrument of strengthening conventional, uneven relations. But there is always hope. An increase in transparency will help in achieving the original goal of making fair what was not. A goal which is still worth all the effort in the world!

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ANNEX 1: CONSUMER PRICES COFFEE

Koffieprijsen							
Merk	Type	Certificering	Arabica/Robusta	Inhoud (gram)	Winkel	Prijs	Prijs/kg
Oké koffie	Normaal	-	?	250	PLUS	€ 1.09	€ 4.36
Oké koffie	Normaal	-	?	250	Spar	€ 1.56	€ 6.24
K&G	Normaal	-	?	500	PLUS	€ 3.99	€ 7.98
K&G	Normaal	-	?	500	Spar	€ 4.15	€ 8.30
Darboven	Normaal	-	?	250	PLUS	€ 2.59	€ 10.36
Van Nelle	Normaal	-	?	500	Spar	€ 5.69	€ 11.38
Lavazza	Speciaal	-	70/30	250	PLUS	€ 3.49	€ 13.96
Lavazza goud	Speciaal	-	100/0	250	PLUS	€ 4.42	€ 17.68
Spar	Normaal	100% duurzaam	?	500	Spar	€ 4.74	€ 9.48
Markus	Dark Roast	4C	100/0	500	Aldi	€ 3.19	€ 6.38
Markus	Goud	4C	100/0	500	Aldi	€ 3.19	€ 6.38
Markus	Normaal	4C	90/10	500	Aldi	€ 2.99	€ 5.98
Darboven BIO	Speciaal	BIO	100/0	250	PLUS	€ 3.45	€ 13.80
Plus	Goud	FT	100/0	250	PLUS	€ 2.99	€ 11.96
Café Oké	Goud	FT	100/0	250	AH	€ 3.09	€ 12.36
Plus	Normaal	FT	?/?	250	PLUS	€ 2.35	€ 9.40
Café Oké	Normaal	FT	A>R	250	AH	€ 2.69	€ 10.76
Fair Trade Original	Normaal	FT	?	250	PLUS	€ 2.69	€ 10.76
Fair Trade Original	Normaal	FT	?	250	AH	€ 2.69	€ 10.76
Markus	Goud	FT + BIO	100/0	500	Aldi	€ 3.99	€ 7.98
Fairglobe Bio	Goud	FT + BIO	100/0	500	LIDL	€ 3.99	€ 7.98
AH Perla Bio	Normaal	FT + BIO	?	250	AH	€ 2.59	€ 10.36
BIO+	Normaal	FT + BIO	?/?	250	PLUS	€ 2.59	€ 10.36
Fair Trade Original	Normaal	FT + BIO	?	250	PLUS	€ 2.89	€ 11.56
Bellarom	Goud	UTZ	100/0	500	LIDL	€ 3.19	€ 6.38
AH Perla speciaal	Goud	UTZ	100/0	250	AH	€ 2.99	€ 11.96
Filterkoffie	Normaal	UTZ	?	500	AH	€ 2.19	€ 4.38
AH Basic	Normaal	UTZ	?	500	AH	€ 2.99	€ 5.98
Bellarom	Normaal	UTZ	90/10	500	LIDL	€ 2.99	€ 5.98
AH Perla	Normaal	UTZ	?/?	250	AH	€ 2.39	€ 9.56
DE	Normaal	UTZ	?	250	AH	€ 2.39	€ 9.56
DE	Normaal	UTZ	?	250	Spar	€ 2.69	€ 10.76
DE	Normaal	UTZ	?	500	Spar	€ 5.49	€ 10.98
DE	Normaal	UTZ	?	250	PLUS	€ 2.85	€ 11.40
AH Ex.	Speciaal	UTZ	100/0	250	AH	€ 3.49	€ 13.96

ANNEX 2 CALCULATIONS

Conversion rates:

- 1\$ = 0.875€ --> 1€ = 1.14\$ (October 2015)
- 1lb = 0.454kg --> 1kg = 2.205lb

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UTZ administrative fees: \$26.50/MT = €23.20/MT = 2.3cts/kg

Total UTZ administrative fees: €23.20 * 224,028MT = €5,197,449.6 of total fees

Page 40-41:

Example roaster fees UTZ and FT (Max Havelaar):

	Fairtrade	UTZ Certified
Amount of coffee roasted (MT)	5,000	5,000
Fee	€1,100,000	€116,000
Discount of fee	€656,250	-
Total Fee	€443,750	€116,000 ⁴

Basic fee FT = 5,000MT * 22cts/kg = €1,100,00

Total Licence Fee per year	Discount %
€ 0 – 75.000	-
€ 75.000 – 150.000	25% discount on the amount above 75,000€
€ 150.000 – 225.000	50% discount on the amount above 150,000€
> € 225.000	75% discount on the amount above 225,000€

Discount FT fee: (€1,100,000 - €225,000) * 0.75 = €656,250

Total FT fee: €1,100,000 - €656,250 = €443,750

Total fee UTZ: 5,000 * €23.20 = €116,000

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Suggested FT premium payed:

Amount of coffee sold as FT: 83,709MT = 184,578,345lb

Basic premium: 184,578,345lb * \$0.20 = \$36,915,669

Additional organic premium (on 46%): 0.46 * 184,578,345lb * \$0.10 = \$8,490,604

Total premium paid: \$36,915,669 + \$8,490,604 = \$45,406,273 = €39,730,488

Page 49:

Share of FT income derived from SCA's:

Coffee related costs are €6.8 million. €4 million from National Labelling Initiatives and €2.8 million from other sources.

For Max Havelaar €1.1 million of €1.7 million (65%) is derived from SCA's. Assuming this is similar for all NLI's 65% of the €4 million is coming from SCA's = €2.6 million

Page 50:

Explanation final table Overview Costs:

- a: €1.60 is lowest price difference while €3.00 is the highest price difference (combining both literature and own data)
- b: lowest/highest price * total amount of FT coffee sold
 $€1.60 * 83,709\text{MT} = €133,934,400$
 $€3.00 * 83,709\text{MT} = €251,127,000$
- c: extra retail payment to roaster estimated at $\$0.75/\text{lb} = €1.45$
- d: see 'UTZ administrative fees' (previous page)
- e: includes both initial costs and costs for 1 year, based on example in the corresponding sub-chapter
- f: suggested compliance cost is $\$40/\text{MT} = €35/\text{MT}$
(in total: $€35 * 83,709\text{MT} = €2,929,815$)
- g: based on the examples provided in the corresponding chapter