

# **Coffee, Co-operatives and Competition: The Impact of Fair Trade**

Anna Milford

R 2004: 6

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**Chr. Michelsen Institute** *Development Studies and Human Rights*

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Price: NOK 90

ISSN 0805-505X  
ISBN 82-8062-081-8  
This report is also available at:  
[www.cmi.no/publications](http://www.cmi.no/publications)

### **Indexing terms**

Fair Trade  
Coffee  
Co-operatives  
Developing countries  
Case studies  
Mexico

## Contents

<b>1. INTRODUCTION .....</b>	<b>1</b>
<b>2. THE INTERNATIONAL COFFEE MARKET: FAIR OR FOUL? .....</b>	<b>3</b>
2.1 BRIEF HISTORY OF COFFEE .....	3
2.2 COFFEE PRODUCTION AND TRADE .....	3
2.3 FAIR TRADE .....	7
<b>3. A THEORETICAL PERSPECTIVE ON COFFEE PURCHASING CO-OPERATIVES AND INVESTOR-OWNED FIRMS .....</b>	<b>11</b>
3.2 THE STRUCTURE OF AGRICULTURAL CO-OPERATIVES .....	11
3.4 CO-OPERATIVES IN COMPETITION .....	12
3.5 THE MODEL .....	13
3.7 CO-OPERATIVE MONOPSONY .....	20
3.8 MIXED MARKETS: IOF AND CO-OPERATIVE IN COMPETITION .....	22
3.9 SUMMARY SO FAR.....	25
3.10 PRICE INFLUENCE BY INCOME MAXIMISING CO-OPERATIVE.....	27
3.11 MEMBERSHIP COSTS AND BENEFITS .....	27
3.12 EFFICIENCY LEVELS .....	29
3.13 FINANCIAL SUPPORT TO CO-OPERATIVES .....	31
3.14 SUMMARY AND CONCLUDING REMARKS .....	33
<b>4. EXPERIENCE WITH AGRICULTURAL CO-OPERATIVES IN DEVELOPING COUNTRIES .....</b>	<b>34</b>
4.1 BACKGROUND.....	34
4.2 AIMS AND POTENTIAL BENEFITS.....	35
4.2.1 <i>Economic benefits</i> .....	35
4.2.2 <i>Social benefits: Social capital, empowerment and democracy</i> .....	36
4.3 POTENTIAL PROBLEMS .....	37
4.4 EXTERNAL INTERFERENCE IN CO-OPERATIVES .....	39
4.5 CONCLUDING REMARKS.....	41
<b>5. CASE STUDY FROM CHIAPAS, MEXICO .....</b>	<b>42</b>
5.1 INTRODUCTION AND METHODOLOGY .....	42
5.2 COFFEE PRODUCERS IN CHIAPAS AND MEXICO.....	43
5.3 COFFEE PRODUCTION, PROCESSING AND EXPORTING .....	43
5.4 PRESENTATION OF THE CO-OPERATIVES.....	46
5.5 THE COMPETITIVE YARDS TICK EFFECT OF THE CO-OPERATIVES .....	48
5.6 CO-OPERATIVE REGULATIONS AND OBJECTIVES .....	51
5.7 CO-OPERATIVE COSTS AND BENEFITS.....	53
5.7.1 <i>The benefits</i> .....	53
5.7.2 <i>The costs of membership</i> .....	55
5.7.3 <i>Co-operative influence on market</i> .....	56
5.8 CO-OPERATIVE EFFICIENCY .....	57
5.9 THE INFLUENCE OF THE FAIR TRADE LABELLING ORGANISATION (FLO) .....	59
5.9.1 <i>The guaranteed minimum price</i> .....	59
5.9.2 <i>Direct market access and prepayment</i> .....	59
5.9.3 <i>The FLO conditions and the monitor</i> .....	60
5.9.4 <i>The risks of financial support</i> .....	62
5.10 FINAL REMARKS ON THE CASE STUDY .....	63
<b>6. CONCLUSION .....</b>	<b>64</b>
<b>APPENDIX: GENERIC FAIRTRADE STANDARDS FOR SMALL FARMER'S ORGANISATIONS (FLO 2002).....</b>	<b>68</b>
<b>LIST OF REFERENCES .....</b>	<b>72</b>

## Figures

2.1	World coffee production	5
2.2	World prices for washed Arabica	5
2.3	The coffee commodity chain	6
2.4	The Fair Trade labelling system	9
3.1	Market equilibrium: competitive solution and monopsony	16
3.2	Different outcomes of duopsony with two IOFs	19
3.3	Co-operative monopsony solutions	20
3.4	IOF and income-maximising co-operative in competition	24
3.5	Short run solutions	26
3.6	Price effect with less efficient co-operative	30
3.7	Market solutions with a subsidised co-operative	32

# 1. Introduction

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In 2001, 106 million 60 kilo bags of coffee were consumed in the world, which corresponds to approximately 636 billion cups of coffee. The majority of these were consumed in the North. 90% of the production took place in the South. Coffee is one of the most important Third World export commodities, and 70% of coffee producers are small-scale farmers.

Coffee producers are faced with a number of problems. They are based in rural areas in poor countries; infrastructure is poor and service provision low. Their income is highly insecure because of fluctuating international coffee prices. In recent years, coffee prices have shown a general downward trend, reaching a record low in 2001. Furthermore, local purchasing markets are often characterised by imperfect competition. After the demolition of the International Coffee Agreement (ICA) in 1989, there should have emerged liberalised local coffee purchasing markets with competition between numerous new processing and exporting companies. But these markets have often failed to appear and today coffee farmers are in a situation where lack of information and infrastructure make them victims of market failures such as the creation of cartels.

Democratic coffee co-operatives have the potential to increase the farmers' market margins and thereby their incomes and standard of living. Several co-operative theorists (Helmberger 1964, Sexton 1990) have also shown that they may have a pro-competitive role in market situations with imperfect competition. Furthermore, they can play an important part in social development, by informing and empowering marginalised producers. Because of these attributes, attempts have been made to form and support agricultural co-operatives in developing countries. But many of these co-operatives failed, either because of the particular co-operative structure, or because of certain external conditions and events that prevented their success. Today donors' and governments' interest in agricultural co-operatives has substantially decreased (Gibbon 1998).

At the same time, a new way of channelling support to rural areas in the South has been created. Northern consumers' concern for the producers and their living conditions has led to the formation of the Fair Trade labelling system, a system that guarantees that the producers are paid a minimum price for their produce. Impact studies made up until now indicate that the system is working well and coffee producers benefiting from Fair Trade have an increased level of welfare. Interestingly, in order to reach the small-scale farmers, the Fair Trade system is making use of democratically run producer organisations, or coffee co-operatives. Hence, the institutions that failed under earlier benevolent attempts to improve the living conditions of the rural poor seem to thrive under the Fair Trade system.

The fact that Fair Trade coffee premiums only reach the farmers through co-operatives is an aspect that has not been explored yet, neither in studies of co-operatives, nor in studies of Fair Trade. In this report the co-operative model will be used as a tool in order to make a deeper analysis of the impact of Fair Trade. The co-operative is an economic agent that may be analysed both in the context of a given market situation, and according to its particular, internal structure. By seeing the co-operative as an economic agent acting and interacting in a given market setting, it is possible to derive hypotheses concerning the impact of the Fair Trade premium, through the co-operative, on a local coffee producer market.

In the course of this report, several areas will be looked at. First, for better insight into the matters in question, an introduction is given to the international coffee market and the Fair Trade labelling system (chapter 2). Several studies of the coffee market have been published (Ponte 2001, Fitter and Kaplinsky 2001, Gresser and Tickell 2002), but it has been difficult to find theories and analyses of the Fair Trade labelling system. Scholars from the fields of

anthropology and sociology have published material on the issue (Rice 2001, Auroi 2000, Renard 1996), but few economists seem to have taken interest in it so far, with the exception of LeClair (2002), who writes mainly about alternative trading organisations.

In chapter 3 economic modelling is used to establish what conditions will bring about or hinder the co-operative's positive, pro-competitive effect on a purchasing market situation. It will be shown that different assumptions concerning the co-operative's main objectives will have different implications for the welfare of the farmers. The report will then look at other aspects of the co-operative, such as its membership policy and the indirect costs and benefits of co-operative membership and how these affect its market share. We also estimate the effect on the market situation of a less efficient co-operative, and finally there will be an assessment of different types of subsidy and their possible implications. This theoretical section draws mainly from co-operative theorists such as Helmberger (1964), Taylor (1971), LeVay (1983), Sexton (1990) and Tennbakk (1996), as well as from theories of industrial organisation (Tirole 1990).

The theoretical section is followed by two related studies. The first, chapter 4, puts co-operative theory into a Third World context. From previous empirical and theoretical studies on co-operatives, we outline the potential advantages of co-operatives, and the reasons why these are often difficult to realise. The report will also look into the different forms of external support that have been given to co-operatives in developing countries, and make an assessment of why they have often given unsuccessful results. This study draws both on traditional co-operative theories developed by, for instance, Furubotn (1976) and Porter and Scully (1987), as well as on studies of co-operatives in developing countries by Deininger(1995), Attwood and Baviskar(1988) and Hussi et al.(1993).

The other follow-up to the theoretical section is a case-study from Chiapas, Mexico, where several Fair Trade-related co-operatives were investigated (chapter 5). The case study is used as an illustration of the theoretical model. On the basis of the relevant indicators and variables derived from the theoretical model in chapter 3, there will be an analysis of how these specific co-operatives affect the competitive situation in the market, and also of the impact of the Fair Trade labelling system on the co-operative structure.

The final chapter provides a summary and raises new research questions based on the findings of this report (chapter 6).

## **2. The international coffee market: Fair or foul?**

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### **2.1 Brief history of coffee**

The coffee plant originated in Ethiopia, from where it was brought to Yemen, where the first bushes were cultivated in Islamic monasteries about 1000 years ago. The monks needed to avoid falling asleep during prayers, and they would eat the whole berry in order to enjoy the stimulative effect. Only in the 16th century, when coffee was commercialised and had spread all over the Middle East, did the Turks come up with the idea of roasting the coffee beans before grinding them. Mixed with hot water, the first modern cup of coffee was born.

By the 17th century coffee-drinking habits had spread to Europe, and the plant itself was also brought over the Atlantic Ocean to the newly colonised countries of America. It was first introduced to the islands of the Caribbean Sea, and soon it was cultivated all over the tropical region of South and Central America.

### **2.2 Coffee production and trade**

#### ***Coffee production basics***

The coffee tree can be grown only in warm areas without frost or sudden temperature shifts, and it also needs plenty of rain. This explains why it is a common export commodity for countries in tropical areas, and an unsuitable one for the rest of the world. Countries producing and exporting coffee today are largely found in Latin America and Africa, but some Asian countries are emerging as major exporters of coffee, in particular Indonesia and Vietnam. Altogether, 90% of the world's coffee production takes place in the developing world.

There are two types of commercially grown coffee: Arabica and Robusta. Arabica, with the mild taste, is the more fragile plant, and its best growing conditions are found in warm zones or in the highlands of tropical zones. Robusta is more resistant and can be grown between sea level and 800 metres.

The harvesting of the red coffee berries has to be performed by hand, and in several rounds as the berries do not all ripen at the same time. The green beans found inside the berry have to be separated from the skin and pulp. The way to do this is either by the 'wet' method (berries are pulped, fermented and washed, dried, peeled and polished), or the 'dry' method (berries are dried and hulled). The end product of this process is called 'green' coffee. These dry green coffee beans are roasted, then ground before they are consumed.

Of the world's coffee production, 15% takes place on coffee plantations of more than 50 hectares. The majority (70%) is grown on farms of less than 10 hectares (Fitter and Kaplinsky 2001). Production requires little machinery or other long term investment, but a great deal of labour, not only for the harvest but also for planting the trees, for the elimination of weeds and for fertilising. Although average costs can be reduced by expanded land use and a combination of vehicles and labourers, there is generally less scope for economies of scale in coffee production than there is for products such as potatoes and wheat, where machines can take over much of the process. This may be an explanation as to why so many production units are still very small in size.

### ***Price fluctuations***

It takes two years from the planting of a coffee tree until harvesting of the berries can start. The optimal yield of a tree is reached when it is five to six years old. Production of high quality beans can then continue for 20 years, followed by another 20 years of declining production. The supply of most other agricultural products can increase within one year by expanding the land area used for its cultivation, but this is not the case with coffee. The only way to increase the produce in the short term is by using more inputs such as hired workers, fertilisers and pesticides. Consequently, the supply elasticity of coffee with respect to price is relatively low.

The price elasticity of demand is also low, with coffee demand dropping only when coffee prices increase significantly (Ponte 2001). As a result, prices on the world coffee market are highly variable. Unexpected frosts or diseases are quite common, especially in Brazil, and can destroy large amounts of coffee. Supply shortage then leads to high coffee prices without a significant reduction in consumption. The response on the supply side is usually higher than necessary, as more farmers than before will plant new coffee trees. Two years later, when the new trees have matured, there will be oversupply and low prices. This will in turn induce many coffee farmers to leave the business or start growing something else. Consequently, the world supply of coffee falls, driving prices up again. Higher prices will again lead to oversupply, and so the cycle continues. These constantly changing prices mean that coffee farmers all over the world live in a situation of uncertainty in which it is difficult to make plans for the future.

### ***Record low prices***

The last boom in prices came in 1995, when a frost destroyed large yields in Brazil (see figure 2.1 and 2.2). Since then world market coffee prices have fallen drastically, and reached their lowest level in 30 years in 2001. This creates large macroeconomic difficulties for poor, indebted countries that receive a large share of their export earnings from coffee sales. For each of the coffee farmers, as well as for many local processing companies, co-operatives and exporters, it is also a crisis situation. The International Coffee Organisation (ICO) estimates that over 125 million people worldwide depend on coffee for their livelihoods. Many of them live close to absolute poverty, which means that when prices are halved within a period of five years, they can no longer meet their basic needs for food, medicine or schooling for the children. Shifting to other crops is difficult, and there are not many crops that will give a better income than coffee, even with the extremely low prices of today. Many will therefore choose either migration to larger cities or, especially in countries such as Mexico, illegal migration to richer countries.

The reason for the low prices is overproduction. As can be seen in figure 2.1, there is a general trend towards more and more coffee production each year. Total production in coffee in 2001/02 was estimated at around 113 million bags (60 kilo per bag) while world consumption was just over 106 million bags. Coffee production has increased by an average annual rate of 3.6%, while consumption has only increased by 1.5% (ICO 2002). Vietnam is said to be one of the main reasons for the increased production. During a period of ten years the country has gone from being an unimportant actor in the market, to becoming the second largest exporter in the world. But most other countries have also increased their production. Many indebted countries in need of export earnings have encouraged coffee production in order to repay their debts. On the consumer side coffee has lost substantial market share in competition with soft drinks such as Coca Cola.

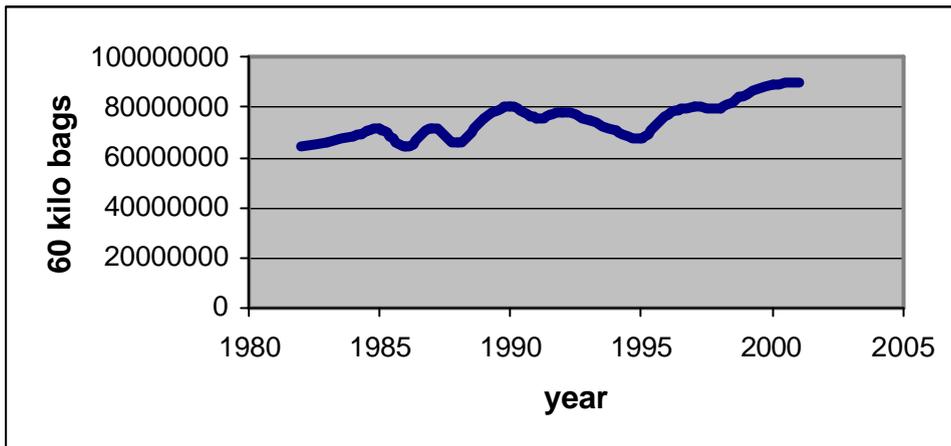
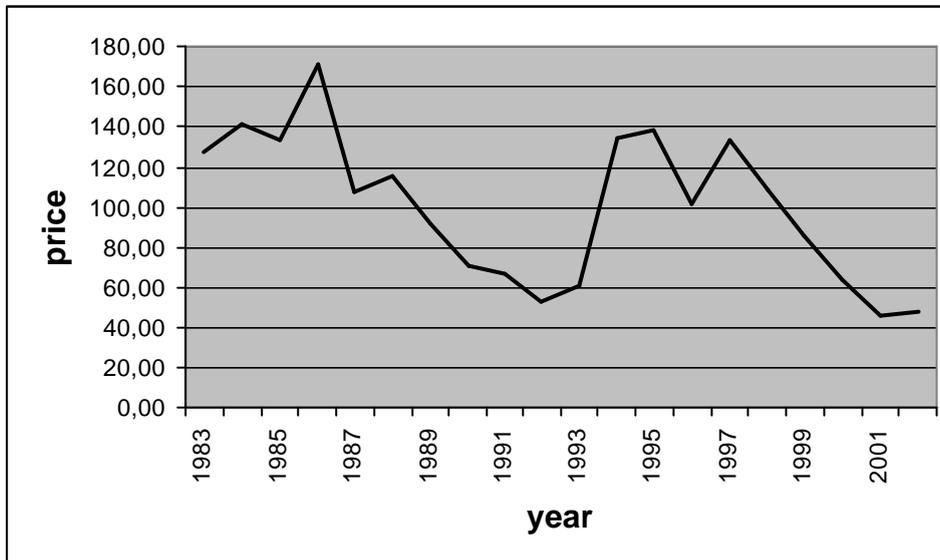
Figure 2.1: World coffee production:<sup>1</sup> 1982-2001 (Source: ICO)

Figure 2.2: World prices for washed Arabica: 1983-2002 (Source: ICO)

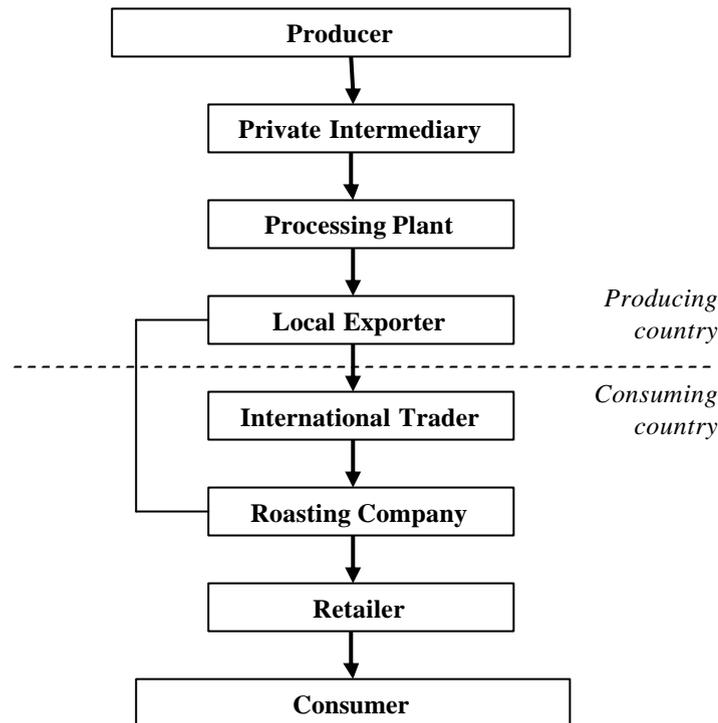


### **The coffee commodity chain**

Figure 2.3 gives a general picture of the coffee commodity chain. The complex chain contains many linkages, and it is said that a coffee bean can change hands as many as 150 times from producer to consumer. In the simplified coffee chain depicted here, the *primary producers* sell their unprocessed coffee to *private intermediaries*, who transport the coffee to the processing plant. After being processed, the coffee is sold by a *local exporter* to an *international trader*. The *roasting companies* usually purchase the coffee from the traders, and sell it on to the *retailers*, meaning supermarkets, restaurants, hotels etc. Finally the coffee reaches the *consumers*.

<sup>1</sup> The data used are from exporting members of ICO.

Figure 2.3 The coffee commodity chain



From 1962 to 1989, the international coffee market was regulated by the International Coffee Agreement (ICA). During this period, quotas were distributed to members of the International Coffee Organisation (ICO) in order to keep coffee prices stable. The disappearance of the ICA in 1989 meant a dismantling of coffee boards and other quasi-governmental bodies in producer countries. According to Ponte (2001), producer organisations have not been able to substitute for these institutions, and local exporters have found it difficult to find funds to compete with international traders. This means that a competitive market has not always emerged after liberalisation. The local exporters have often allied themselves with international traders, and there have been many cases of vertical integration between international traders and local exporters, in some cases all the way up to estate producers.

At the same time there has been a process of concentration among the international traders. The increased volatility of prices made hedging necessary to avoid losses, and small and mid-sized trading companies that did not have the required resources either disappeared, merged with others or were taken over by the major companies. In 1998, the two largest international coffee traders, Neumann and Volcafé, controlled 29 % of the market, and the top six companies 50 % (Ponte 2001).

The coffee roasting market is even more concentrated than that of the traders. The two largest groups, Nestlé and Philip Morris, control 49 % of the world market for roasted and instant coffees (Ponte 2001), Nestlé alone controlling 56 % of the market for soluble coffees. Roasting companies have shown an increased tendency to outsource supply management instead of integrating, which is part of the reason why international traders have had to strengthen their supply network.

Thus, the coffee chain is characterised by more concentration the further down the chain one goes, making it a buyers' market at each linkage. The roasters consist of a few big companies, purchasing coffee from the more numerous international traders, and also to some extent from local exporters. The international traders, in turn, can choose to buy from a large

number of local exporters from all over the world. This means that the local exporters are price takers when selling coffee on the international market, but in the local markets where they purchase coffee, they are limited in number and therefore powerful in relation to the numerous local farmers who cultivate the coffee.

At the far end of this chain there is a large number of small-scale coffee farmers, usually living in remote areas in poor countries. They are faced with a complicated international trading system of which their knowledge is very limited. Every year the coffee prices are different, going up and down in cycles, making life unstable and the future unpredictable.

Studies made of the value chain of coffee show that only a small portion of what the consumer pays when buying coffee is retained by the producer, and this portion is getting smaller and smaller: In the 1970s producers retained an average of 20 percent of total incomes (Ponte 2001). A present study showed that today's coffee farmers receive around 6 percent of the value of a pack of coffee sold in a store (Gresser and Tickel 2002).

### ***The local coffee markets***

Coffee production usually takes place in remote, rural areas in Third World countries, where the infrastructure is poor and standards of living and education levels are generally low. The coffee farmers can only offer their produce to those purchasers who operate in the area where they live. As mentioned before, the liberalisation of the market has not always created a competitive situation with a large number of processing and exporting companies, possibly because the high cost of processing and exporting creates barriers to entry. The farmers are also not always well informed about the stock market prices in New York and London, which means there is a situation of asymmetric information. To a certain extent, there is also asymmetric information regarding the quality of the coffee, which is determined by the purchasers. In addition, the condition of the roads is often poor, and the farmers usually do not have the transport to go searching for better prices in other areas. The conditions for oligopsony and cartelisation are therefore present, and studies from different countries such as Peru (Gresser and Tickel 2002), Mexico (Renard 1996) and Tanzania (Tallerontine 1997) indicate that this problem is widespread.

Imperfect competition means that the farmers are getting paid less for their produce than they would in a competitive situation. For someone who is living close to absolute poverty, this loss of income may have a serious effect on their life situation. When this effect is added to the other factors that are characteristic of the coffee industry, such as fluctuating prices, the present problem with world overproduction and the low value being retained by farmers compared to the profits of the coffee giants, we can perhaps understand why, to many of these farmers, this situation must seem unfair.

## **2.3 Fair Trade**

The perception of international trade as 'unfair' has been adopted by seemingly more and more people from many different groups. Resistance to unrestrained free trade and so-called globalisation takes many forms, the most spectacular being the mass demonstrations at conferences held by global organisations such as WTO and the World Bank. The Fair Trade initiative could also be seen as an expression of the recognition that free trade is 'fundamentally unfair to developing countries' (LeClair 2002). But rather than making loud protests aimed at institutions and politicians, the initiative acts in a more constructive way, trying to help at least some people by using the international trading system as it is today.

The idea of Fair Trade originated in the 1960s as a response to the dissatisfaction of developing countries with their terms of trade. The expression 'Trade not aid' was coined at a

UNCTAD conference at this time, arguing that achieving better trading conditions is preferable to receiving continued foreign aid (Rice 2001).

Alternative Trading Organisations (ATOs) started selling the products of people from developing countries to consumers in the North, and thus created so-called 'alternative markets' in which the rules were different from those of the 'ordinary' markets, meaning that the producers were paid above market price. Typically, these organisations operated the whole chain, and were responsible for the importing as well as the distribution and sale of the products, often in special 'World shops'. The range of products included handicrafts as well as foodstuffs.

Fair Trade labelling is a continuation of this system, but instead of creating their own distributive network, they use those already in existence. The labelling system makes it possible for any commercial business company to purchase products from a selection of producers in the South, and to put a 'Fair Trade' label on it for consumers to recognise. Compared to the ATO system, this not only has cost advantages, but also makes it possible for the labelled products to reach a much larger group of consumers since they can be displayed in ordinary supermarkets instead of special stores.

In 1997 the umbrella organisation Fairtrade Labelling Organisation (FLO), was founded. The organisation today has 17 members, which are so-called national initiatives operating in 17 different countries (14 European countries plus Canada, Japan and the USA). Fair Trade labelled coffee, sugar, oranges, cocoa, bananas, tea and honey are purchased from Latin America, Asia and Africa. In each of the consumer countries, the national initiatives work to increase the demand for these products.

In order to reach small-scale coffee farmers, FLO works with democratically organised producer co-operatives that are seen as 'able to contribute to the social and economic development of their members and their communities' (FLO, April 2002), and have therefore been accepted by the organisation. The producers do not pay for being registered with FLO, but the licensees pay for using the Fair Trade label. The fee is paid to the Fair Trade national initiative in the consumer country. Other than that, the main features of the Fair Trade labelling system are direct access to the market, a guaranteed minimum price, the certification system, the criteria and the monitoring.

Figure 2.4 The Fair Trade labelling system

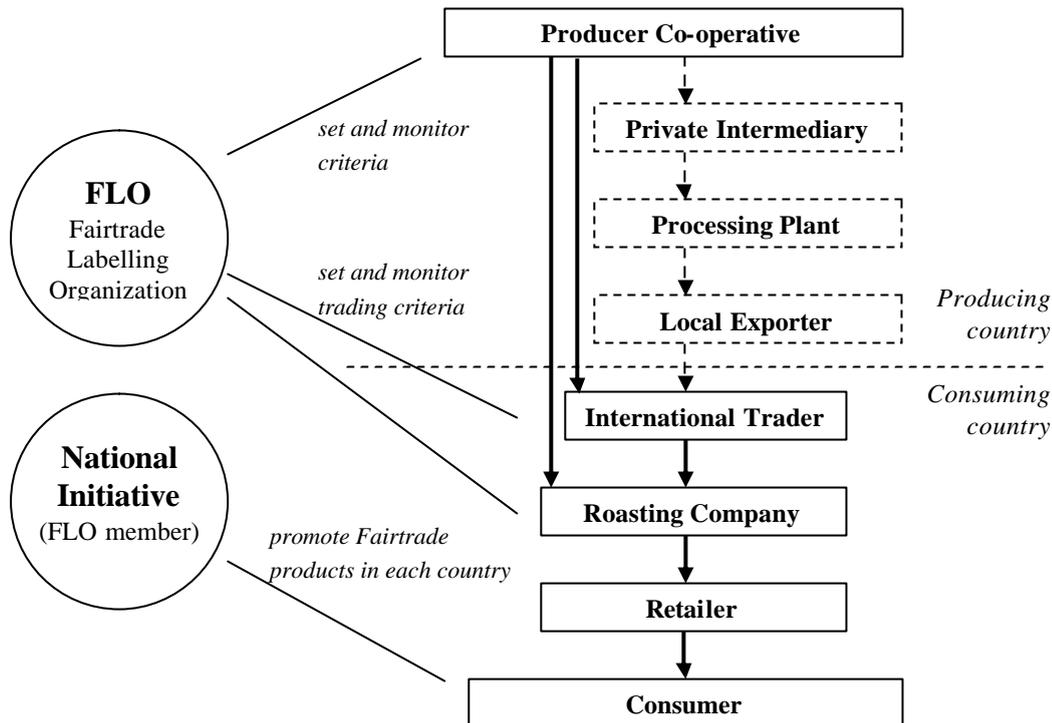


Figure 2.4 explains the Fair Trade Labelling system and how it relates to the coffee commodity chain. Instead of going through several linkages of purchasers and sellers, the producer organisations registered with FLO sell their coffee directly to a licensed international trader or roasting company based in a consumer country. This way more of the consumer price is retained by the producers. Being registered with FLO increases the chances of getting in touch with international traders, who otherwise are often suspicious of doing business with unknown, small organisations.

The guaranteed minimum price is calculated so that it covers the costs of sustainable production and sustainable living. In addition, it aims to cover investments made by the co-operative. If international coffee prices increase to a level above the guaranteed minimum price, the Fair Trade price will have a fixed premium of 5 US cents per pound over the established prices. The reason for this is that the producer organisations have found it difficult to collect enough coffee from their members when the private intermediaries in the area offer the same prices.

The producer organisations as well as the licensed trader or roaster have to fulfil a list of conditions before they can sell and buy Fair Trade labelled coffee. The requirements for coffee co-operatives are listed in appendix 1 under 3 different sections: social, economic and environmental development. Briefly, the criteria for social development are that the majority of members are small producers, that the organisation is democratic, participatory and transparent, and that no discrimination takes place. Under economic development are listed a set of conditions for the use of the Fair Trade premium, and it is also necessary that the organisation is able to export coffee in a satisfactory way. The environmental conditions are mainly concerned with the use of pesticides.

The conditions for coffee traders and roasters are that they must pay the guaranteed minimum price, and when world market prices exceed this, they must pay an extra 5 US cents premium. Apart from that they are required to 'procure to establish a long term and stable

relationship in which the rights and interests of both are mutually respected' (FLO 2002). They are also supposed to provide the exporting co-operatives with a prepayment of up to 60% of the contract value.

The registered producer organisations are supposed to receive a visit from a FLO monitor every year. During these visits, the monitors conduct interviews with staff as well as members, and go through the situation of the co-operative, checking things like their accounting systems and meeting minutes. Based on their findings, they come up with advice or demands. In cases where requirements are not met, and where negotiation does not lead to any improvements in the situation, the co-operative concerned may lose its registration with FLO. This means that it can no longer sell Fair Trade labelled coffee.

### ***The impact of Fair Trade***

Since the initiation of the Fair Trade labelling system in 1989, sales of Fair Trade labelled products have grown steadily, and more and more countries have created their own national initiatives. In the coffee sector, sales have increased by 12.3% since 1997 (FLO 2002). Still, the market share of Fair Trade labelled coffee is limited. In Switzerland and the Netherlands it is at around 3%, while in other countries, such as France, only 0.1% of coffee sales are Fair Trade labelled (Krier 2001). It is thereby clear that Fair Trade is still too small to represent the solution to the problems of overproduction and fluctuating prices in the coffee sector. Possibly, the organisation has an indirect impact on policy makers and large multinational coffee companies through its information work, but coffee farmers benefiting directly from Fair Trade are still relatively few.

FLO works with 185 producer co-operatives in 24 countries in Latin America, Africa and Asia. In 2001, when the coffee prices were at their lowest, the extra benefits received by these organisations through the Fair Trade labelling system amounted to almost 30 million US\$ (FLO 2002). Reports on the impact of Fair Trade on the producers involved have generally concluded that the money reaches the poor and marginalised, and that the system has a positive influence on the life situation of those benefiting from it. These impact studies include case studies from Tanzania (Tallerontine 1997), Ghana (Jones and Bayley 2000), Costa Rica (Ronchi 2000), Mexico (Renard 1996, Nigh 1997) and Peru, Bolivia and Nicaragua (Schuurman and Van Driel 1999). They are all primarily interview based, and evaluate the impact on the co-operative organisations and on their members' level of welfare. There has still not been any impact study that uses extensive comparative data from before and after the introduction of Fair Trade to evaluate its long term effects.

From the previous impact studies there is little evidence that Fair Trade has a positive impact that reaches beyond those selected few who are directly connected to the system. But because the Fair Trade system uses local coffee co-operatives to channel the premium, there will be theories predicting more outcomes than just the raised incomes of the co-operative members. It may also influence the life situation of non-members in the same market. In the next chapter we will use economic theory and look more closely at agricultural co-operatives operating in the setting of a purchasing market.

### 3. A theoretical perspective on coffee purchasing co-operatives and investor-owned firms

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Coffee purchasing co-operatives are democratic organisations, owned and run by the members. The members produce the coffee individually at their farms, and together they manage and finance the processing and marketing of the coffee, sharing the surplus between them. Co-operatives selling coffee through the Fair Trade labelling scheme usually operate in local markets which include both co-operatives and investor-owned firms (IOFs). The aim of this chapter is to analyse theoretically the impact of a co-operative presence in a local coffee market.

We will use the description of a coffee purchasing market as the setting for our model. We will look at the implications for the farmers in the area under the conditions of private monopsony and private oligopsony compared to the outcome of a co-operative monopsony. Next we will see what happens to members and non-members when IOFs and co-operatives interact in the same market. The theoretical model will then be looked at under specific conditions, and membership costs and benefits, co-operative inefficiency and subsidised co-operatives will be analysed.

#### 3.2 The structure of agricultural co-operatives

Agricultural co-operatives (also sometimes referred to as marketing co-operatives or service co-operatives) buy the agricultural produce of their members and distribute it to the final market, usually after processing the product. As economic institutions, they are in many ways different from IOFs. The main differences are concerned with funding, management, patronage rebate and the objectives of the organisation.

A co-operative is, like the IOF, the property of the investors, but these investors are also members of the co-operative, which means that they are the users and managers of the firm. Membership gives the farmer access to the services provided by the co-operative, but also the responsibility of controlling it. Investors in a private firm are also, as owners, responsible for the management of the organisation. But only investors with large capital shares will have voting power of significance in the firm, while the rest of the shareholders have very little influence. In a co-operative, a uniform membership fee implies that all members have an equal share, and the votes are usually distributed according to the one member-one vote principle. This means that each member has the same responsibility and incentives to participate actively in the running of the organisation (Le Vay 1983, Albæk and Shultz 1997).

Another important difference from an IOF is that the co-operative does not distribute the generated surplus according to capital holdings. The patronage dividend is usually distributed according to quantities marketed through the co-operative, which means that the more one sells to the co-operative, the more one gains (Le Vay 1983). Other distributive methods are also possible, such as lump sums or equal dividends to each member, which would still differ from the surplus distribution of an IOF.

The main objective of an IOF is usually profit maximisation. Maximum returns to members would be the equivalent objective of a co-operative, and many analyses of co-operatives have applied this as the only aim. But the main objective of a co-operative is not always so easily defined. The member group consists of many different persons with differing

ideas, and creating the greatest possible surplus may not be equally important to all of them<sup>2</sup>. For some, the aim could be that the co-operative should be as big as possible, without losing money. If an agricultural co-operative were to adapt such a strategy, it would restrict neither the number of members nor the level of inputs made by the members, as long as the co-operative made profits. In addition to having several alternative objectives, co-operatives often have other, non-economic aims that IOFs do not have, such as participation, democracy and member education.<sup>3</sup> These aims might conflict with that of delivering the maximum return to members.

The agricultural co-operative could be seen as internalising the member farmers' costs of production, which distinguishes it from an IOF. It does not simply count the purchasing of raw material as part of the costs for the company, since this is the members', the owners', income. If the main objective of the co-operative is the total return to its members, it would maximise the incomes the members generate from selling their produce through the co-operative, as well as the profits from the co-operative operations.

Hence, since the objectives of a co-operative differ from those of an IOF, their behaviour may also be different. This in turn may have important implications when the two types of economic agents compete in the marketplace.

### 3.4 Co-operatives in competition

The way co-operatives interact with IOFs in the market is an important aspect of their function, particularly in market situations characterised by imperfect competition. Very often, agricultural co-operatives have been formed as a response to market failure, to counterbalance monopsony or oligopsony power in the processing sectors (Rhodes 1983, Fulton 1999, LeVay 1983). For instance, the co-operative dairy association movement that began in New York in the mid-1800s was a response to the monopsony power of privately held milk processing plants (Porter and Scully 1987). According to Sexton (1994), agricultural markets are often oligopsonistic, because of high transport costs which limit the farmers' access to buyers, and because of the farmers' investments in sunk assets, which creates exit barriers. If the farmers own their own processing company, and run it as a co-operative, they can retain the market margins otherwise held by private processors. This should have the effect of both raising the members' income and pushing the IOFs towards more competitive pricing. The latter is what Sexton refers to as the 'competitive yardstick effect' (Sexton 1990). This positive role attributed to the co-operative has often been used as an argument for continued government support to agricultural co-operatives.

Although it seems to be a generally accepted view that co-operatives have this effect on agricultural markets, there has been relatively little formal investigation into the issue (Sexton 1990). There have been many studies of mixed consumer markets, by, for instance, De Fraja and Delbono (1990). But according to Sexton the characteristics of agricultural purchasing markets are very different from those of consumer markets, and he himself uses spatial analysis to investigate mixed oligopsonistic agricultural markets. Before him, works of importance were published by Helmberger (1964), who was the first to distinguish between open co-operatives and co-operatives that restrict membership and deliveries. Helmberger

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<sup>2</sup> Decision-making in a co-operative is in itself a problem investigated by scholars like Staatz (1983), who sees the co-operative as a coalition rather than as an independent firm.

<sup>3</sup> Member education is one of the main objectives of the Rochdale principles, written by the so-called Rochdale Pioneers who started one of the first co-operatives in 1844. They are as follows: 1. Open Membership, 2. Democratic Control (One Man, One Vote), 3. Distribution of the surplus to the members in proportion to their transactions, 4. Limited Interest on Capital, 5. Political and Religious Neutrality, 6. Cash Trading, 7. Promotion of Education.

claims that the co-operative's objective is to maximise surplus for any given level of raw input, which implies that the co-operative will produce more and pay a higher price than the IOF, and therefore have a beneficial impact on farmers' income levels. Other studies of agricultural markets have been made by Tennbakk (1996), who uses a Cournot game to analyse the welfare effects of co-operatives on consumers as well as producers, and Rhodes (1983), who derives the result that in competition with IOFs, co-operatives will potentially take over the whole market. Generally, the overall results from these analyses have been that co-operatives do have a positive effect on the income of farmers, provided certain conditions are present. One of these is that there are market margins to be retained, either because the market is not in equilibrium, or because there are oligopsonistic tendencies in the market.

None of the authors mentioned have looked specifically at co-operatives in a Third World context. Third World agricultural markets are often characterised by limited market availability for farmers (Hussi et al 1993, Deininger 1995), which makes it easier for large processing firms to benefit from monopsony power. It should therefore be relevant to base analyses of mixed oligopsonistic markets on the conditions of a Third World market situation, such as local coffee markets.

In the following analysis, we will look at a coffee purchasing market with imperfect competition. We will look at the welfare implications for coffee producing farmers under the conditions of monopsony and duopsony with only IOFs, and then expand the model to include coffee co-operatives.

### 3.5 The model

In a given local market, a large number of small-scale farmers cultivate an agricultural product, coffee. We assume that the coffee is a homogeneous product for all the farmers, and denote the level of coffee supplied by  $q$ . For simplicity, the farmers' production and cost functions are identical.

The farmers sell their coffee to processors located in the area. Being numerous, the farmers are price takers in this local market, and receive the price  $w(q)$  for each bag of coffee. The price is determined by the producers' supply and the processors' demand for coffee. The processors' demand is determined by their purchasing price and the final market price  $P$ , which is the price at which they sell the coffee on the international market.

The independent farmer has the following general utility function:

$$(1) \quad \text{Max } U_f(y, e; x), \text{ with } \frac{\partial U}{\partial y} > 0, \frac{\partial U}{\partial e} < 0$$

where  $y$  is the income,  $e$  is effort, and  $x$  are other factors. By effort is meant the farmer's physical effort in coffee production, in other words the care and time he puts into looking after the trees, harvesting and drying the berries.

The income of the farmer is defined as

$$(2) \quad y = w \cdot q_f$$

where  $q_f$ , the individual farmer's production level, is a function of the farmer's effort, capital ( $k$ ) and land ( $l$ ):

$$(3) \quad q_f = f(e, \bar{k}, \bar{l}), \text{ where } f_e' > 0, f_{ee}'' < 0$$

We assume for simplicity that capital (coffee bushes) and land are fixed in the short run. Since coffee bushes only start to produce after two years, the only way to increase the yield within one season is to intensify effort. Effort is restricted by a time constraint, 24 hours per day, and we assume that time not spent on coffee production is spent as leisure.

If the price of coffee,  $w$ , increases, the effect on production is ambiguous. There is a positive substitution effect: leisure becomes more expensive, and effort goes up. But the income effect on coffee supply is negative: A higher income increases the demand for leisure, and effort goes down. Because of the generally high levels of poverty among coffee producers, we can assume that the substitution effect is dominant, hence that increased coffee prices give increased coffee supply.

Since (3) is monotonically increasing in  $e$ , there exists an inverse effort function

$$(4) \quad e = f^{-1}(e, \bar{k}, \bar{l}) = c(q_f)$$

where  $c(q_f)$  is the effort needed to produce  $q$ . Substitute for  $e = c(q_f)$  into (1):

$$(5) \quad U_f(y, c(q_f); x)$$

and  $\frac{\partial U_f}{\partial q_f} = \frac{\partial U_f}{\partial e} \frac{\partial e}{\partial q_f}$  is the disutility of effort. Assuming that utility is separable in  $y$  and  $e$ ,

we can write

$$(6) \quad \tilde{u}_f = w \cdot f(e, \bar{k}, \bar{l}) - c(q_f)$$

and  $c(q_f)$  can be interpreted as the individual farmers' cost function. Utility is thus derived from the income generated from coffee sales, minus the costs in terms of effort, capital and land used for the production. This can be simplified to the farmer's utility function, which is a function of how much is produced by the farmer ( $q$ ):

$$(7) \quad u_f = w \cdot q_f - c(q_f)$$

The short run marginal coffee production costs are increasing and convex:  $c'(q) \geq 0, c''(q) \geq 0$ . More effort is required to increase production, and the use of effort is increasingly regarded as a cost to the farmers.

As price-takers, the farmers' price  $w$  is independent of  $q_f$ . Maximising (7) with respect to  $q_f$  gives the following first order condition:

$$(8) \quad w = c'(q_f)$$

The farmers' optimal production level is where marginal income equals marginal costs. Thus  $w(q) = c'(q)$  determines the farmers' aggregate coffee supply curve, which is upward sloping in  $q$ . Since the substitution effect dominates, an increased price level gives increased incentives to produce. We can also assume that more farmers will start selling coffee if the coffee prices are high enough, and that these farmers will have higher production costs per unit of coffee produced because their land is less fertile than the land of the farmers who are also selling at

lower price levels, and hence more effort is required by them. Since the marginal cost curve is upward sloping, this means that in order to buy a larger amount of coffee, the processors must pay a higher price.

The processors in the area are either investor-owned firms (IOFs) or member-owned co-operatives. They purchase coffee beans, process them and sell them on the international market in quantity  $x$ . The processors are identical with regards to the production function,  $x(q)$ . Production in this case means the processing and marketing of coffee beans. We assume that there are some fixed costs involved in processing and marketing, which makes it too costly for individual farmers to market their production alone. In the short term the companies produce under decreasing returns, implying decreasing marginal product,  $x'(q) > 0, x''(q) < 0$ . Thus, the industry is characterised by a short term concave production function. We will in the following analysis assume that production is taking place at the downward sloping part of the processing companies' average revenue product (ARP) curve.

The international coffee market is highly competitive, and the processors are therefore price takers in the sales market. Hence the final market price  $P$  is taken as a constant.

### ***The competitive solution***

Before we make the analysis of a market with both co-operatives and IOFs, we will look at a market situation without a co-operative presence. This is done in order to be able to make a comparison between these different settings, and their implications for the farmers.

An IOF operating in a competitive, local coffee growing area, will have the following profit function

$$(9) \quad \Pi = P \cdot x(q) - \bar{w} \cdot q - F$$

The net income is the income from selling the product  $x$  minus the purchasing costs from buying the input  $q$ , and the fixed costs. With perfect competition the IOF is a price taker in the purchasing market, thus  $\bar{w}$  is independent of  $q$  for each producer. Maximising (9) with respect to  $q$  yields the following first order conditions:

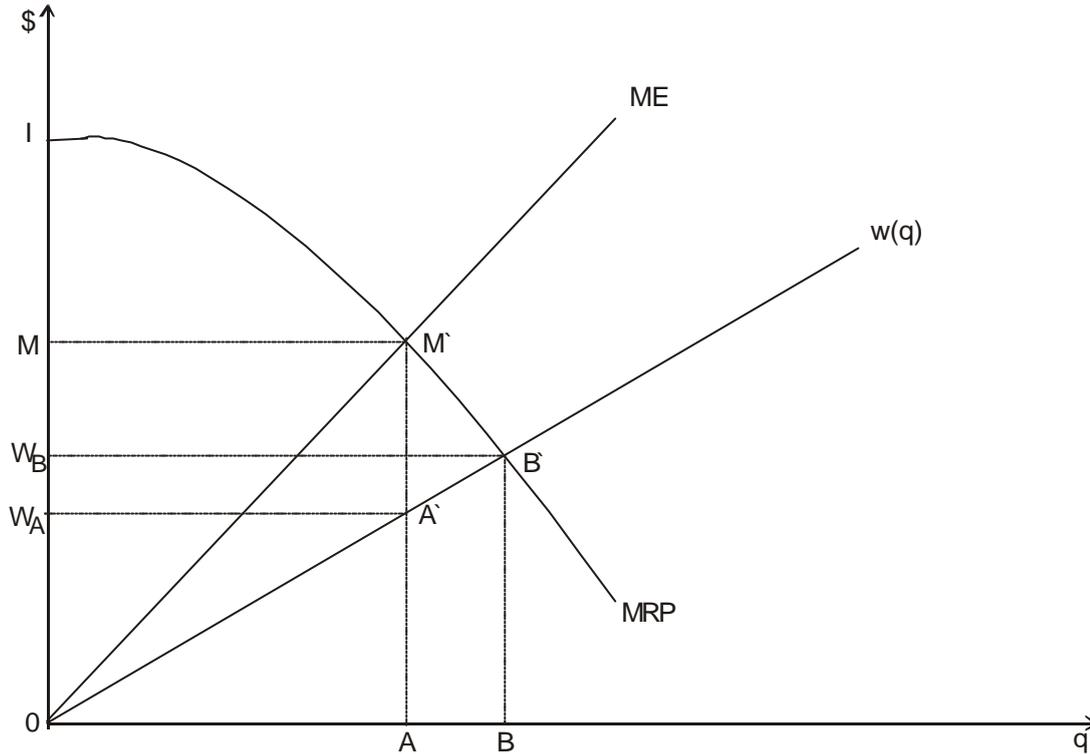
$$(10) \quad \begin{aligned} P \cdot x'(q) &= \bar{w} \\ MRP &= \bar{w} \end{aligned}$$

A processing company in a competitive coffee purchasing market is a price taker, and will buy the level of  $q$  that corresponds to the point where its marginal revenue product (MRP) equals the local market coffee price,  $w$ .

Since we have assumed decreasing marginal product for the processors and  $P$  exogenous, MRP decreases in  $q$ . From the FOC, we may thus derive a decreasing demand curve for coffee for the processors.

The competitive solution in the local coffee market is illustrated by B' in fig. 3.1, which is also the socially optimal solution.

Figure 3.1 Market equilibrium: competitive solution and monopsony



### **Private monopsony**

If the processor is the only buyer in the market, we assume that it will operate as a monopsonist. The monopsonist maximises the following profit function

$$(11) \quad \Pi = P \cdot x(q) - w(q) \cdot q - F$$

The monopsonist faces  $w(q)$  and not  $\bar{w}$ , because as a sole buyer it takes into account the fact that its purchases influence the general price level.

This gives the following first order condition

$$FOC : P \cdot x'(q) - w(q) + w'(q) \cdot q = 0$$

written as

$$(12) \quad P \cdot x'(q) = w(q) \left[ 1 + \frac{1}{h} \right]$$

where  $h$  is the supply elasticity of  $q$ , thus

$$MRP = ME$$

The monopsonist will choose to buy coffee at a level where the marginal revenue product (MRP) equals the marginal expense (ME) for  $q$ . This is point M' in figure 3.1. It purchases the amount A from the coffee farmers, and pays the price  $W_A$ . The monopsonist faces an upward sloping supply curve since the farmers' marginal costs are increasing. It takes into

account the fact that the increased demand for coffee will increase the purchase price not only for the last unit, but also for the whole quantity  $q$  purchased. The ME curve will therefore lie above the farmers' supply curve  $w(q)$ . The IOF will make a monopsonist profit, while the farmers will sell less coffee and at a lower price than with a competitive solution.

Low values for  $h$  implies that supply is inelastic, which means that changes in the coffee price have little impact on the quantity supplied, as in the short run it is difficult to make adjustments in supply. This is, as we have seen, typical for the coffee industry. From the expression (12), we see that a low value for  $h$  results in a higher profit for the monopsonist.

A processor in a monopsonist position will earn  $M$  on the last unit bought, while paying only  $W_A$ . It will make the surplus  $W_A A'M'I$ , while the farmers will have the producer surplus  $0A'W_A$ . If the purchases are increased to the competitive solution  $B$ , where the marginal costs of the farmers equal the value of the marginal product, there will be a net social gain equal to the triangle  $A'B'M'$ . An increase in input  $q$  beyond  $B$  means that the processors' value of marginal product is smaller than the marginal cost, which would not be beneficial for both parts.

We see that the farmers in the area are worse off in a situation of monopsony than they would be in a situation with competition. The producer surplus they lose is equivalent to the area  $W'A'B'W_B$ .

### **Private oligopsony**

If there are a few purchasers in the area, the market is called an oligopsony. A market containing only two purchasers is defined as a duopsony. The results derived from a duopsony can be extended to an oligopsony situation. The outcome of a duopsony situation depends on how the economic agents act towards each other, and on the specific attributes of the industry, such as the technological constraints. We will first look at the possible solutions to a duopsony consisting of two IOFs.

### **Cartel**

With only a few purchasing firms in a market, there is a possibility that they will behave collusively. When interacting repeatedly, they will start taking into account not only their possible current profit, but also the possibility of a price war and the long-run losses they will experience if they decide to go above a given price. Hence they may create a cartel which maximises long-term profits by sustaining a lower farm price level than that which would have come out of a competitive market situation.

If the processors co-operate, they divide the market between them and choose the purchased amount of coffee that maximises the cartel's profit. They will take into account the impact their own demand has on the price for both themselves and the other firm. The maximisation problem of the firms will then be a joint profit maximising equation that will assign the total level of coffee purchases to be made from the market. The ME curve is the same as for the monopsonist, and farmers in an area with a cartel will be no better off than with a monopsonist.

The functioning of a cartel requires that neither of the agents break the agreement, which makes it a potentially unstable equilibrium. It will only persist as long as none of the purchasers offers higher prices or purchases larger quantities than they have agreed to. They might have an incentive to overbid the others, since there is a possibility for short run profits to be made as they grab a larger market share. However, in the long run, as the market moves towards a more competitive solution, their profit earnings will be less than with the cartel.

### Non co-operative games

In the field of industrial organisation, a distinction is usually made between Cournot and Bertrand competition. When an industry is characterised by Bertrand competition, the firms are assumed to be competing on price. In a one period game, they simultaneously choose prices, and the quantities they end up buying are determined by the market. The firm offering the highest input price will capture the entire quantity produced. In order not to lose their share of the market, the firms will therefore bid the price up until they are no longer making any profits. The fact that it only takes two firms to make this happen is the so-called Bertrand paradox. With the assumption of constant returns to scale in processing and marketing, a situation with Bertrand competition would lead to a competitive, socially optimal outcome.

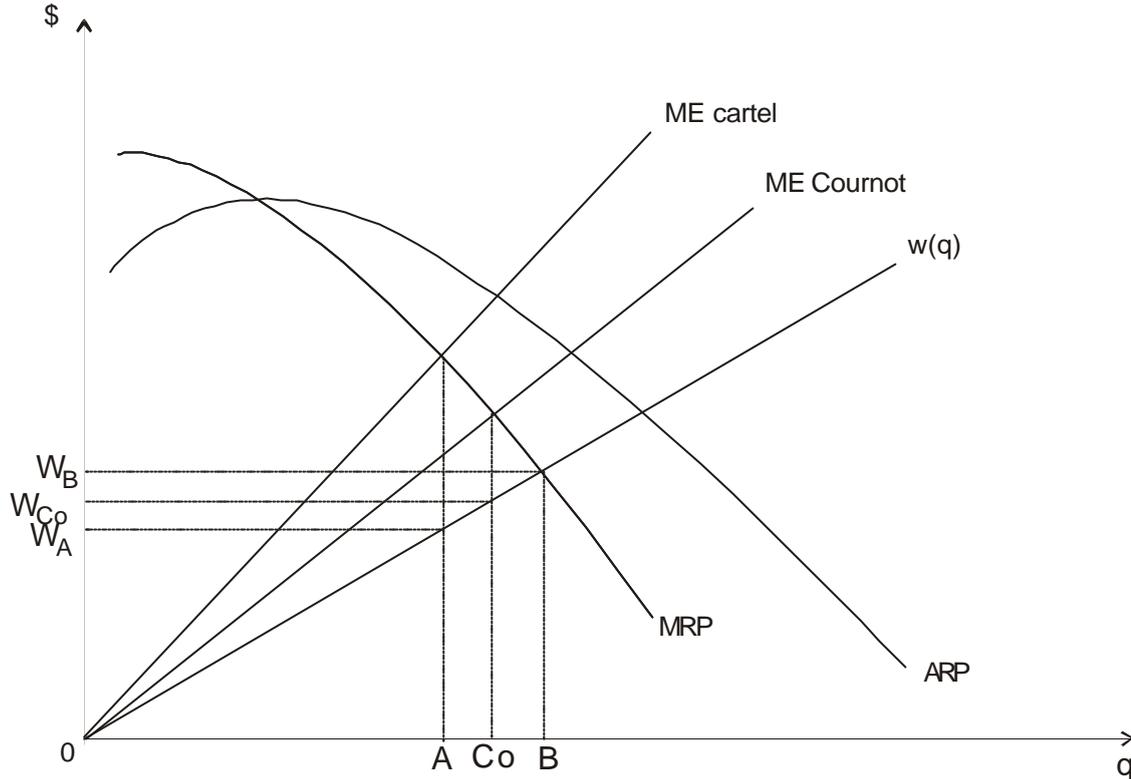
When the industry is characterised by decreasing returns to scale, as we have assumed that it is in our model, the solution to a Bertrand game is not easily found. This is because capacity constraints make it impossible for one firm to capture the whole market with a higher price offer. According to Tirole, deriving equilibrium under increasing marginal cost generally involves mixed strategies. A property of the equilibrium is that both firms' prices are lower than the competitive price. Hence, decreasing returns to scale soften price competition (Tirole 1990). This means that firms will have positive profits and producers are offered a lower price than the socially optimal one.

If we assume that the scale decision must be made before the firms arrive on the market, one can use a two-stage game to derive a solution under which price competition is the final stage of competition. If the firms first attain a certain level of capacity to produce, and produce a given quantity, and then compete on price, we will get the result that 'for small capacities the reduced form profit function has the exact Cournot form' (Tirole 1990). This result was obtained by Beckman (1967). Later studies of the theme have also been made by Levitan and Shubik (1972) and Kreps and Scheinkman (1983). This means that the results of a two-stage Bertrand game with capacity constraints will be similar to the results of a Cournot game. For the formalisation of private duopsony we will therefore use only Cournot. But we will later use Bertrand competition when looking at co-operatives in competition with IOFs.

Under Cournot competition the firms compete in quantities of the input  $q$  (or capacities to produce  $x$ ). Quantities are considered strategic substitutes, which means that an increase in one firm's purchases will be met by a reduction in the other firm's purchases. The firms assume that the rival's production is given. They choose quantities simultaneously, and the price of  $q$  will then be determined in the market. Each firm will choose the quantity of  $q$  for which its marginal cost is equal to its marginal revenue, taking into account the fact that the increased demand has an impact on the price and thus on its profit. But it will not take into account the fact that the increased price also has an impact on the other firm's profit as well. It will operate on its marginal expense (ME) curve, but the ME curve will be flatter than in the monopsony case.

The total amount of  $q$  demanded by the two firms will then be larger than in the case of monopsony, but the competitive solution will not be reached. The output level will be somewhere between the two other solutions, and likewise the price level (see figure 3.2)

Figure 3.2 Different outcomes of duopsony with two IOFs



We see in figure 3.2 how the investor-owned firm maximises profit according to its net marginal revenue product (MRP) and its marginal expenses (ME). If the market is competitive because there are many purchasers in the area, the ME curve will correspond to the supply curve of the farmers,  $w(q)$ , and the MRP curve to the aggregate demand curve of the IOFs,  $P \cdot x'(Q)$ . The output and price level will then be where  $w(q) = MRP$ , at level B in figure 3.2. If the market is not competitive, the ME curve will be above the farmers' supply curve, since the purchasers are aware that they are affecting the general price level and thus face rising marginal purchasing costs. This will give a solution that is not Pareto efficient, either a Cournot solution, or a solution with monopsony or cartel. The distortion is larger with a cartel than with Cournot competition, since the ME curve for a cartel is above the ME curve for a Cournot oligopsony.<sup>4</sup>

Hence, imperfect competition gives the farmers a lower producer surplus, because they sell less and get a lower price. The price and quantity is lowest if the purchasers form a cartel, but there will be a distortion also if the two processors are competing with each other as a Cournot duopsony.

<sup>4</sup> We can see this by using subscript 1 and 2 for two rival firms, and compare the two expressions for marginal expenses for firm 1 with cartel and with Cournot competition:

$$ME_{\text{cartel}} = w(q_1 + q_2) + w'(q_1 + q_2) > w(q_1 + q_2) + w'q_1 = ME_{\text{Cournot}}$$

As long as  $q_1 + q_2 > q_1$ , which means as long as there is more than one firm, the ME curve for a cartel is above the ME curve for a Cournot oligopsony. From this we can also see that the more firms there are in the market, the closer it will be to the competitive outcome. (In our figure, the cartel will purchase the quantity A at the price level  $W_A$ , while the Cournot oligopsony will buy the amount  $Co$  and pay the price  $W_{Co}$ . These prices are both lower than the competitive price  $W_B$ ).

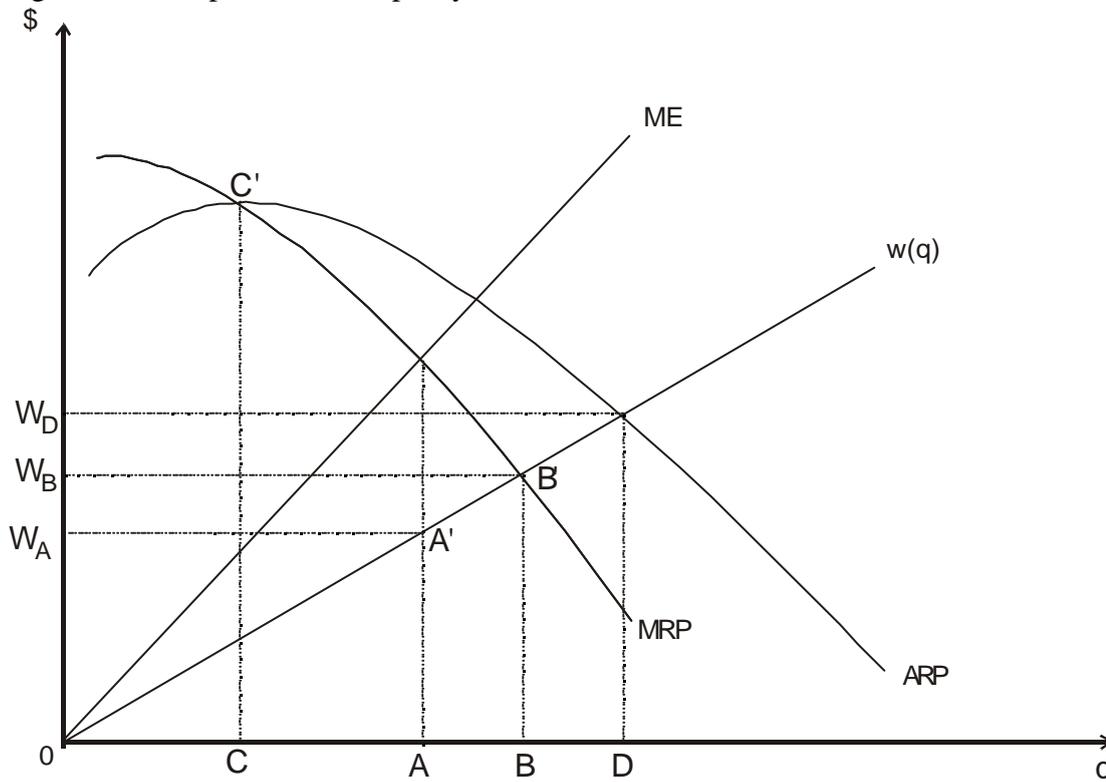
### 3.7 Co-operative monopsony

We have just seen that imperfect competition among IOFs will result in lower incomes for the farmers in the area. The question is, will a co-operative improve the situation for farmers if introduced into an area with monopsony or oligopsony? Before we look at a mixed market setting, we will analyse a co-operative's behaviour as a monopsonist. This is to see how different assumptions will influence the co-operative's price and output levels.

The behaviour of a co-operative is assumed to be different from that of an IOF. Unlike the owners of the IOF, the owners of the co-operative, the members, receive their income both from the sales of their produce and from the surplus made by the co-operative's processing and marketing operations. Hence, one would expect that if the farmers themselves ran the purchasing company, they would be better off than with a private monopsony. However, different assumptions about the co-operative's behaviour and motivation will give different solutions to the co-operative monopsonist situation, which results in several alternative welfare levels for the farmers in the area.

The different outcomes are illustrated in figure 3.3. We will now look at the different solutions, the assumptions that underlie them, and the implications for the farmers.

Figure 3.3 Co-operative monopsony solutions



#### **Solution A: Profit maximisation**

We have earlier seen that a private monopsonist will purchase a volume that corresponds to level A. This is the profit maximising point for a processing company, where the marginal revenue product equals the marginal expenses from purchasing coffee, (see equation (12)). But although the incomes earned from processing and exporting would be maximised by choosing level A, the total incomes of the farmers would not. As in a private monopsony, they would make a net loss of producer surplus corresponding to the area  $W_A A' B' W_B$ , compared to the collectively optimal output level B. The net social loss made in a monopsonist situation (the

area A'B'M' in figure 3.1) will be a net gain to the co-operative if it increases the input level from point A to point B. This means that the members' total incomes would be higher if the production level was increased. Hence, if a co-operative is run as a democratic institution by its members, we can conclude that it will not choose output level A. This is the argument that Taylor (1971) uses for giving co-operatives financial support.

However, it is possible that democracy does not work as it should within the co-operative, and that the managers do not operate in the interests of the producers. Co-operatives are often assumed to have a potential principal-agent problem between members and managers (Porter and Scully 1987), and it might be the case that the managers do not operate in a manner that is optimal for the members. They might not do so either out of neglect, or because they are maximising profits on behalf of a third party such as the government, or because they themselves are taking large shares of the surplus (Mporogomyi 1988). In that case solution A may be a possible result.

### ***Solution B: Maximum total return to members (income maximising co-operative)***

In a case where the co-operative does not have any of the problems mentioned above, and is owned by the members and run for their benefit, and where the members seek to maximise their total income, output level B has been suggested as the most likely outcome (Taylor 1971).

Since the co-operative maximises the output both from the marketing operations and from the production of the primary product, it can be seen as a firm that is integrated horizontally across farms and vertically between farmers and processors (Tennbakk 1996). Following Tennbakk's analysis, the co-operative will have a profit maximising function which subtracts the total coffee production costs from the income generated from selling coffee on the international market:

$$(13) \quad \Pi = P \cdot x(q) - c(q) - F$$

Maximising with respect to  $q$  yields the following first order condition

$$(14) \quad P \cdot x'(q) = c'(q)$$

This corresponds to the point of intersection between the producers' supply curve and the co-operative's MRP curve, which means it is equal to the solution achieved in a competitive situation (level B in fig. 3.4). Hence, a co-operative that maximises the total return to its members, will produce at the collectively optimal output level if it is a price taker in the final market. It will base its purchases of unprocessed coffee on its MRP curve. This follows the view of Taylor (1971), who based his analysis on Enke's (1945) theories on requisite societies (consumer co-operatives).

### ***Solution D: Membership or output maximisation (open membership co-operative)***

If we look at figure 3.3, we see that solution B cannot be a long term stable equilibrium unless the inputs to the co-operative are restricted. The reason for this is that the income earnings of the members per unit delivered, given by the average revenue product (ARP), is more than their marginal costs of production. At level B the ARP curve is above the supply curve. This means that there are excess profits in the market, and as long as these profits are passed on to the members as patronage dividends per unit delivered, we can assume that they have

individual incentives to increase their production. If the co-operative does not apply a policy of restricted membership and coffee deliveries, production will increase until level D is reached. At this point the average revenue product ARP equals the price paid to the members,  $w(q)$  (which corresponds to their marginal costs of production), and hence no excess profits are made (Helmberger 1964).

Formally, this is the point where

$$(15) \quad \frac{P \cdot x(q) - F}{q} = w(q)$$

The net income of each member will be higher if they produce at level B than if they go all the way to level D, so members behaving rationally from an economic point of view would try to stick to level B. To do this they need to co-ordinate their deliveries.

### 3.8 Mixed markets: IOF and co-operative in competition

In this section we will analyse the different possible outcomes for a coffee producing area where there are two buyers, one co-operative and one IOF. We have just seen that a profit maximising IOF and a democratic co-operative will choose different output levels. The co-operative's behaviour depends on its main objectives, whether it is a policy of restricted or unrestricted membership and deliveries. We will now compare the different possibilities: the cartel solution, the competitive solution with an IOF and an open membership co-operative, and the solution with an IOF and an income maximising co-operative.

#### ***Cartel with co-operative and IOF***

A cartel solution to a market situation with a co-operative and an IOF implies that the two companies agree to purchase at level A, where the purchasing price is  $W_A$  (in figure 3.2), in order to maximise the profits from processing. This means that the market would be in a situation similar to monopsony. This would be the optimal solution for the IOF.

But in the previous section we concluded that the monopsony solution does not yield the highest possible outcome for the members of a co-operative. Because of the loss they make in producer surplus, they will be better off at level B. We can thereby conclude that a cartel with a democratic co-operative and an IOF is an unlikely outcome to this market situation.

#### ***IOF in competition with open co-operative***

We have seen that an open membership co-operative will continue to raise the output level by purchasing more coffee until the average revenue product equals the price paid to members, i.e. until the co-operative's profits are eliminated. Under these given conditions, an IOF competing with an open co-operative will either have to pay the same price level as the co-operative, or it will have to close down. If it offers a lower price level, non-members will be better off turning to the co-operative for membership.

However, there are many examples from the real world of IOFs and open co-operatives co-existing. Descriptions of markets with IOFs and open co-operatives have been made by Helmberger (1964), Rhodes (1983), Sexton (1990) and Tennbakk (1996). Studies conclude that open co-operatives have a stronger pro-competitive effect than co-operatives restricting membership, but open co-operatives make lower incomes on behalf of their members than co-operatives maximising total returns by restricting membership.

### ***IOF in competition with membership-restricting co-operative***

We have seen earlier that a co-operative that maximises the total return to members will purchase the quantity where the farmers' marginal costs are equal to the marginal revenue product of the co-operative. We also explained that this could not be a stable situation in the long term if there were excess profits in the market, because the patronage dividends paid according to deliveries would make the farmers increase their production level until the profits were eliminated. In order to maximise profits, the co-operative would seek to restrict membership and deliveries.

We will assume that, due to investments in fixed assets, both the co-operative and the IOF have capacity constraints. As explained earlier it is difficult to draw an equilibrium solution in a Bertrand game with two IOFs when there is decreasing return to scale in processing. According to Tirole (1990), when firms choose capacities in the light of the price they will obtain, the Bertrand (competitive) solution will not be reached, and instead the solution becomes the same as that of a Cournot game. In describing the interaction between a membership-restricting co-operative and an IOF we will base the description on Bertrand, or price competition. This is because in a game with two different actors with different objectives, the difference in price levels is an important factor that would not be shown in a Cournot game. The Bertrand game will also give different results that may be more related to our setting than a Cournot game.

In price games, the price is first decided by the firms, and the quantities they both purchase are then determined by the market. With constant returns to scale, the firm that offers the highest price will purchase the entire quantity produced in the market. When there are decreasing returns to scale or capacity constraints,<sup>5</sup> the firms are no longer able to purchase the entire market produce, although their price level is higher than the rival's. Therefore, only some producers are able to sell to the firm with the highest price, and the rest will have to sell to the other one.

The following model is constructed in the setting of a mixed market. We can assume that the co-operative will have an initial member body, and that it will choose its capacity to process and export in order to maximise the net return to the members. In some cases this would imply an increase in membership levels if the members cannot supply the quantity required to obtain the optimal output level. In other cases it would mean a reduction in the members' coffee deliveries. Given the co-operative's capacity constraints, it will choose the price level that will yield the optimal quantity and the highest income for the co-operative's members. When it has obtained this optimal quantity, it will cease to purchase more coffee, and hence it will not let more farmers become members and sell to the co-operative.

The other purchaser in the market is an IOF. It pursues different interests from the co-operative, since it counts the purchasing price level as part of the costs and not as part of the income. Although it may have the same capacity to process and export, the optimal quantity and corresponding price level is lower than for the co-operative. As long as the co-operative is purchasing coffee, the farmers will be better off selling to the co-operative than to the IOF, since its price offer is better. However, when the co-operative stops purchasing coffee, the farmers who are left do not have any other choice than to sell to the IOF. The IOF is the only purchaser left in the market, and it can therefore choose to maximise its output the way the monopsonist purchaser did in section 3.6. This is what Tennbakk (1996) assumes<sup>6</sup>.

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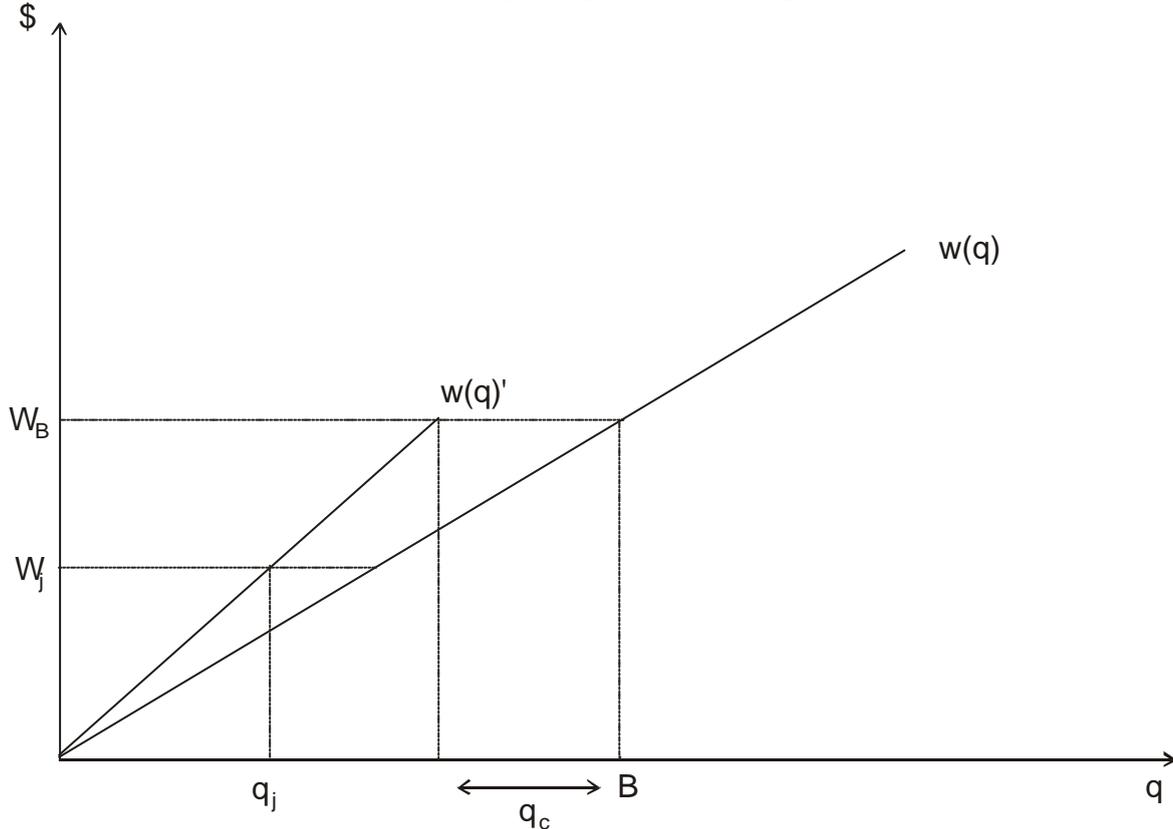
<sup>5</sup> Capacity constraint is an extreme case of decreasing return to scale: The marginal cost of production becomes infinite at the capacity level.

<sup>6</sup> In Tennbakk's analysis, the co-operative and the IOF are purchasing from two different, strictly separated groups, members and non-members. In her case the processors are also duopsonists in the final market.

A two-step game is taking place. At the first stage farmers choose which group they will belong to, the member or the non-member group.<sup>7</sup> Based on the initial member body, the co-operative will find the optimal quantity to purchase, and quote the price level corresponding to this. The next step is therefore a price game: if the price offer of the co-operative is better, it will induce some non-members to switch from the IOF.

We can illustrate the process of this game with a heuristic model that shows the basic mechanisms of what is taking place. The illustration is a simplified version of Tirole's (1990) model of price competition in a consumer market with rationing. In our case we will assume that the rationing rule is proportional.

Figure 3.4 IOF and income-maximising co-operative in competition



$w(q)$ : Producers' initial coffee supply curve

$w(q)'$ : Residual supply curve, or non-members' supply curve

$q_c$ : Purchases made by co-operative when maximising members' income

$W_B$ : Price level offered by co-operative to its members

$W_j$ : Price offered by IOF

$q_j$ : Purchases made by IOF

Figure 3.4  $w(q)$  is the farmers' initial supply curve. We assume that the co-operative is income maximising. When maximising the members' income with a given capacity constraint, the price level it offers is  $W_B$ . Because of the capacity constraints and the initial membership level, the quantity it will purchase is  $q_c$ , and not level B, which is the quantity the producers wish to supply at this price level.  $q_c$  is therefore not enough to cover the entire market supply. The residual supply curve of the IOF,  $w(q)'$ , starts where the demand of the

<sup>7</sup> We will later look at motivations for choosing different groups.

co-operative ends, and at the price level  $W_B$ . Because some of the coffee produced in the market has already been sold, the residual supply curve is steeper than the initial supply curve.

The IOF will choose a price level, in this case  $W_j$ , and purchase the corresponding quantity,  $q_j$ . In the light of our previous results, we can assume that the price  $W_j$  is the result of a monopsonist profit maximising decision. The values of  $q_c$ ,  $W_B$  and  $W_j$  are determined outside the figure.<sup>8</sup>  $q_j$  is determined by the intersection of  $W_j$  and the residual supply curve, which in turn is determined by  $W_B$  and  $q_c$ .

What we can see from this analysis, is that it is possible to have a market with two price levels simultaneously, without dividing the producers into two strictly separated groups, and also without using a spatial setting. The co-operative's share of the market depends on its capacity to process and export. From figure 3.4 we see that if  $q_c$  increases, the market share of the IOF,  $q_j$ , will decrease unless the price  $W_j$  increases. A reduction in the co-operative's capacity would give a larger share to the IOF, which means that fewer producers would benefit from the co-operative's prices. A lower price level  $W_B$  will also increase the IOF's purchased quantity  $q_j$ , or make it possible to buy the same amount at a lower price.

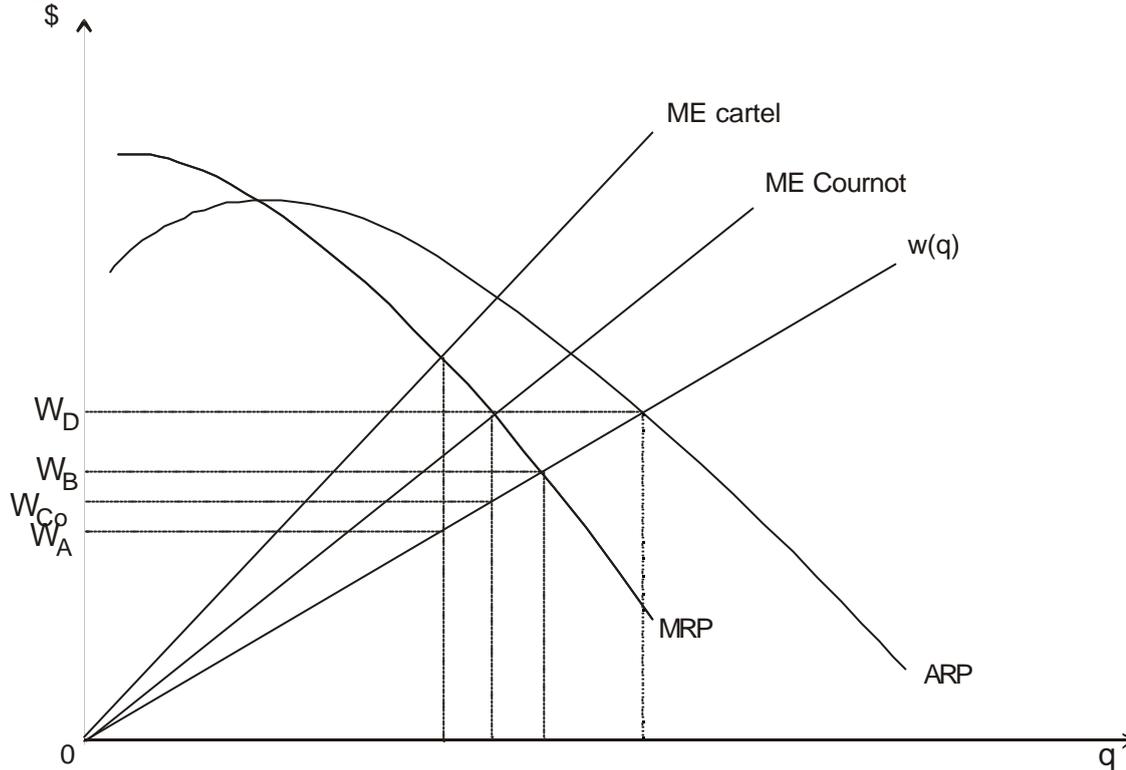
### 3.9 Summary so far

Figure 3.5 shows the short run solutions we have mentioned so far. When comparing co-operative monopsony to private monopsony or duopsony, farmers get higher incomes with a co-operative: Either  $W_D$  if it is an open membership co-operative, or the socially optimal price  $W_B$  if it is an income maximising co-operative. Assuming that all of the farmers in the area are members of the monopsonist co-operative, they will all be better off in this situation.

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<sup>8</sup>  $W_B$  and  $q_c$  by an income maximising co-operative with capacity constraints, and  $W_j$  by a profit maximising IOF.

Figure 3.5: Short run solutions



$W_A$  : Price level with private monopsony

$W_{Co}$  : Price level with private Cournot duopsony

$W_B$  : Price level with income maximising co-operative

$W_D$  : Price level with open membership co-operative

If there is one IOF and one co-operative in the area, an open membership co-operative also yields higher price levels for farmers who are selling to IOFs in the area. But since an income maximising co-operative with capacity constraints must restrict membership in order to stay at the income maximising production level, the non-members will be worse off than the members. The IOF is likely to set prices as a monopsonist on the residual supply curve, and the price level the remaining farmers are offered will be lower than the co-operative price. It will also be lower than the price level offered by a monopsonist IOF or a cartel,  $W_A$ , since the residual supply is less than the initial supply<sup>9</sup>. These farmers are therefore worse off with the co-operative in the area than without.

If we compare a mixed duopsony to a private duopsony, our results show that a co-operative presence is not necessarily beneficial to all the farmers in the area. Private duopsony with a cartel solution will have the same price and quantity as the private monopsonist, while a Cournot solution yields higher prices and quantities than monopsony, but lower than the competitive outcome. If the co-operative is MRP pricing, co-operative members will be better off, but non-members, again, will be worse off than before. The difference in prices they receive before and after the arrival of the co-operative will be particularly large if one IOF previously in Cournot competition is replaced by an income maximising co-operative.

However, although these were the results of the model, they may not always fit with reality. We will now see why open co-operatives do not always increase their production level

<sup>9</sup> It should be noted that this depends on the rationing rule, which is proportional, not efficient.

until their profits are eliminated, and why membership-restricting co-operatives may still influence the price level of an IOF.

### 3.10 Price influence by income maximising co-operative

A market that is operated with two different prices, a co-operative price and an IOF price, might not represent a stable solution in the long run. One of the reasons for this is that if the industry is in a situation with one restricting co-operative and a cartel, the co-operative could play the role of a ‘barometer of exploitation’ (Helmerger 1964), or a ‘pacemaker’ (LeVay 1983). According to Helmerger, the co-operative will measure ‘the downward pressure of oligopsonistic market conduct on prices received by the primary producers.’ The difference in prices offered to the members and the non-members indicates to what extent the producers are being exploited by the processing firms. If the difference is large, the IOF might have reason to fear that the farmers will do all they can to change the situation for the better. These efforts might include creating their own co-operative, or seeking government intervention to redress the situation. The possibility of these changes taking place, ‘might lead profit seeking firms to temper their use of power with prudence’ (Helmerger 1964). It is therefore possible that in a market with a restricted co-operative and an IOF, the IOF is not retaining as much profit as it could by behaving as a monopsonist. Fearing that the farmers will struggle against exploitation, it will offer a higher price than the monopsonistic one will. The result might be only a small price difference between the co-operative and the IOFs, at a point between  $W_A$  and  $W_B$  in figure 3.5. Hence, in contrast to our previous results, the restricting co-operative will also have a positive impact on the general price level.

We have earlier assumed that open co-operatives will increase the production level until the elimination of the members' patronage dividends. Sexton (1990) points out that if the co-operative distributes the profits as a lump sum instead of a patronage dividend per unit delivered, the members' deliveries will not increase beyond level B. As long as the profits received by the members are not reflected in the price they are paid, he assumes that they will have no interest in increasing their production level. At the same time, since the income maximising co-operative maintains an open membership policy, Sexton shows that it will have the effect of reducing the rival IOF's processor-farm price spread, or market margins, although by less than what is obtained by an open membership co-operative.

However, Sexton draws his conjectural variations model in a spatial setting, which means that the possibility of new entrants to the co-operative is limited due to the large distances and transport costs. Otherwise, one would assume that the lump sum profit received by the members would attract non-members to the co-operative, which eventually would have meant a move away from level B. However, it is still likely to reduce the attraction of co-operative membership, compared with the profits being distributed according to the level of deliveries made. Lump sum distribution of profits is therefore a possible way to regulate membership levels, while still raising the general price level in the area.

### 3.11 Membership costs and benefits

So far we have assumed that farmers can switch between co-operatives and IOFs without costs, and that they are motivated to do so by the price level they are offered. We will now introduce the concept of membership costs and benefits, in order to see how this will influence the market shares of co-operatives and IOFs.

A co-operative will usually differ from an IOF because it offers the members certain benefits. These might include a closer location, lobbying of public authorities, services such as credit schemes, education, purchases of inputs for production, or organisation of joint

production of collective goods such as roads, schools and so on. The level of membership will depend on how the producers value these benefits.

Examples of costs of co-operative membership are fees, specific requirements for production and compulsory co-operative meetings. A membership fee implies that selling to the co-operative generates less income for non-members than for members, so price discrimination takes place. This means that if the co-operative management does not want the level of membership and deliveries to increase beyond the income maximising level B, a sufficient rise in the membership fee would make potential new entrants turn to the IOF instead. The co-operative is theoretically still open to new members, but because of the membership fee, entry will be limited to the most eager or the wealthiest producers.

Meeting obligations are not necessarily defined as a cost. Co-operative meetings are not seen by everyone as a waste of time that could have been spent on productive work; they can also be perceived as a way of obtaining important information, creating networks, or simply socialising. Those who perceive meetings as a cost are less likely to become members than those perceiving it as a benefit.

Another membership cost, but one that is not voluntarily applied by the co-operative management, is delayed payment. Because of financial difficulties, co-operatives often do not have the means to pay the members at the moment they hand over their coffee. This is a disadvantage often faced by co-operatives in developing countries, as we will see in the next chapter. In the coffee sector, private processors are often integrated vertically with international traders, and thereby get access to the necessary credit. Delayed payment implies that many farmers will choose the immediate payment from the IOF, although it might be lower. Their choice will depend on their economic situation and how precarious it is, and how they value immediate compared to delayed consumption. Generally, we would assume that the longer the time delay, the less attractive co-operative membership is.

As an illustration, we may construct a general utility function for farmers, where the co-operative costs and benefits are integrated:

$$(16) \quad \text{Max } U_{f,t}(y_t, y_{t+1}, e, M, S, L),$$

where  $y_t = w_c q_{c_t} - mf$ , and  
and  $q_{c_t} = f(e, k, l)$

$y_t$ : income received immediately

$y_{t+1}$ : income received as delayed payment

$e$ : effort (cost)

$M$ : meeting obligations (cost or benefit)

$S$ : co-operative services (benefit)

$L$ : location (cost or benefit)

$mf$ : membership fee (cost)

With membership costs and benefits, a two-price equilibrium can be found:

$$W_c + B_c - K_c = W_j$$

where  $W_c$  is the income maximising co-operatives' optimal price level,  $B_c$  is the co-operative benefits,  $K_c$  is the co-operative costs and  $W_j$  is the IOF price level. There may of course also be some IOF costs and benefits, but we exclude these in order to simplify. We let the costs

and benefits be expressed in a monetary form, since we can assume that the elements have an opportunity cost, a price that an individual is willing to accept in order to get or get rid of that element.<sup>10</sup>

Hence, price alone does not determine what proportion of the farmers will go to the co-operative, and who will go to the IOF. The above mentioned factors will also be of importance, and they show that elements such as poverty levels, risk awareness, and culture have a certain influence on determining membership levels. At the equilibrium the co-operative and IOF prices can be different, but all of the producers sell to the processor they prefer.

This has two important implications. On the one hand, the fact that the co-operative restricts membership by imposing a fee means that it remains open to new members, and the IOF will have to take this into account. If it offers a very low price level, non-members will find it worthwhile to pay the fee and start selling to the co-operative. The co-operative therefore has an influence on the IOF's price level, but it does not have to raise its production level until the elimination of its profits.

On the other hand, the involuntary membership costs may become a disadvantage to the co-operative. If the co-operative has a delayed payment scheme, and a large number of farmers have a high valuation of present against future consumption, it means that the co-operative will have a smaller market share than if the price level was the only thing that mattered to the farmers.<sup>11</sup> Hence, involuntary membership costs may become a disadvantage for the co-operative, which will end up purchasing less coffee than the amount that corresponds to the income maximising level. The effect is the same as if, in figure 3.4, the co-operative's market share  $q_c$  decreases. The IOF would then be able to purchase the same quantity  $q_j$  at a lower price  $W_j$ , and the pro-competitive role of the co-operative would be reduced.

### 3.12 Efficiency levels

We have so far assumed that the co-operative and the IOF have the same production and cost function, which means that they are both equally productive. We will now consider the possibility that the co-operative is less productive than the IOF. The less efficient the co-operative is, the lower is the price level it can offer the members, and hence the lower their welfare level. It also means that the services or other benefits that it could offer its members will be reduced. The next chapter is largely dedicated to an investigation into whether co-operatives are less efficient than IOFs.

In the long run, the less efficient firms will lose out and be excluded from the market (Helmberger 1964). Co-operatives are not exempt from this rule, and the long term existence of a co-operative requires that it is as efficient as its competitors. Hence, the income-improving role of the co-operative can only be played for a longer period of time if it has the same level of efficiency as the IOF.

The market share of an income maximising co-operative depends on its capacity to produce. The larger its production capacity, the larger the market share. On the other hand, this also means that the lower the productivity level, the smaller the size. Hence, in the short

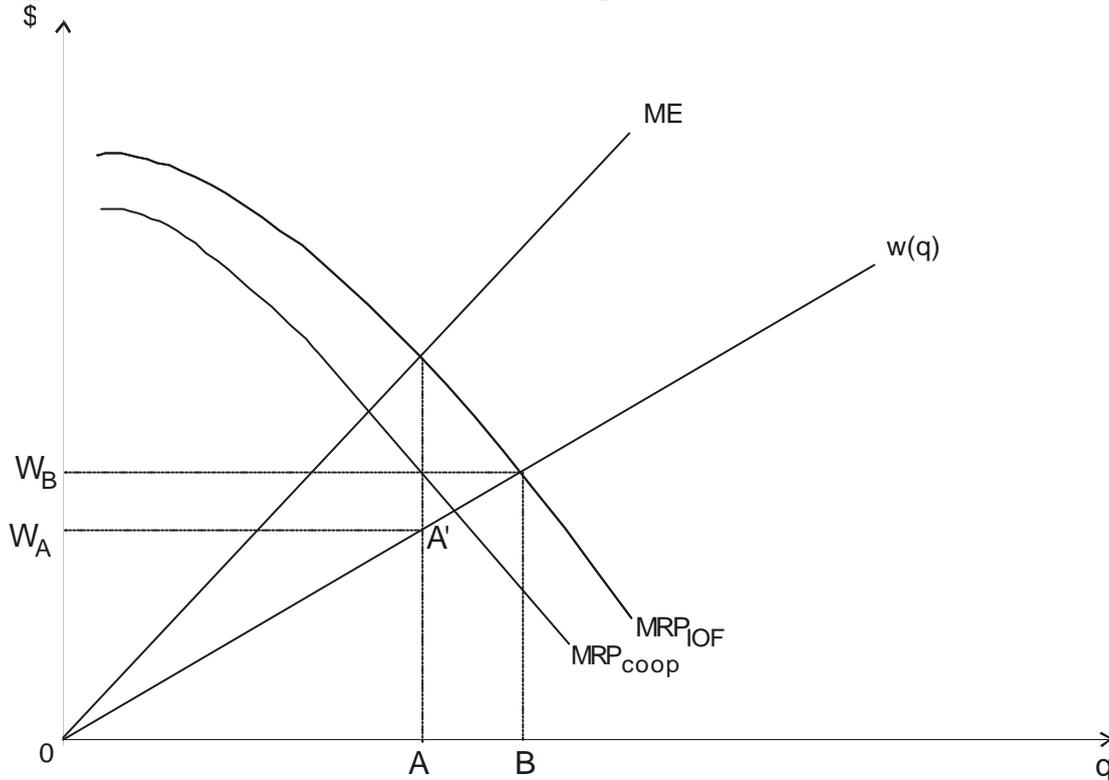
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<sup>10</sup> For instance, the services offered by the co-operative may be compensated for by a given amount of money, or the cost of having to go farther away to sell the coffee may also have a compensating price.

<sup>11</sup> Furthermore, the co-operative's decreased incomes will make it difficult for it to have enough liquidity to pay the members on time. The payment may thus be even more delayed, which will decrease membership levels even further and so on, until the co-operative collapses.

run, assuming that the co-operatives are less efficient would imply that they produce less than the IOF, as shown in figure 3.6.

Figure 3.6: Price effect with less efficient co-operative



The figure shows a co-operative and an IOF facing two identical groups of farmers, and hence the same supply curve,  $w(q)$ . We have argued that income maximising co-operatives will influence the price level of a monopsony IOF (or a cartel), either working as a 'pacemaker' or because it uses membership fees. This means that it will contribute to a rise in the IOF's price level, which we can assume will end up somewhere close to the co-operative price. If the co-operative is less efficient than the IOF, its MRP curve will be lower than that of the IOFs, and its optimising output level will be closer to that of the IOF (level A in figure 3.6). If its MRP curve intersects the supply curve close to A', the IOF's maximising point, the IOF will not have to raise its price or purchasing level in order to keep its share of the market. The closer it is to the monopsony price, the less positive price effect it will have. If it is inefficient to the extent that the MRP curve intersects the farmers' supply curve below the IOF's output level, the co-operative offers a lower price than the IOF. Inefficiencies may also reduce the value of the benefits offered by the co-operative, and increase the membership costs.

From this we can conclude that if a co-operative operating in a duopsony is less efficient than the IOF, it will not have a positive impact on the price level unless it:

1. Increases its productivity level (or reduces the factors making it more inefficient)
2. Decreases the costs of membership
3. Increases the benefits of membership
4. Increases the co-operative price offer by an external factor.

### 3.13 Financial support to co-operatives

There are many examples of co-operatives that are supported economically by governments. Co-operatives in industrialised countries are often given tax exemptions (Porter and Scully 1987, Taylor 1971) and in developing countries many co-operatives have to a large extent been financed by local government, foreign donors or by NGOs. Co-operatives are often supported even though they are less efficient than their private competitors. This is because on the one hand, they are believed to counteract monopsony power, as we have just seen. If the co-operative does not manage to do this because of inefficiencies or membership costs that are due to its particular structure, a subsidy might restore the situation. But in addition, as will be shown in the next chapter, there are several other benefits attributed to the co-operative, such as the services they provide and the effect they have on social development. Governments seeking to increase the welfare of primary producers might therefore wish to help co-operatives survive, especially if they are believed to be less efficient than the IOF, and therefore less likely to persist in the long run without such support.

Alternative Trading Organisations and Fair Trade labelling schemes can also be seen as a way to channel financial support to agricultural co-operatives. Although the consumers of Fair Trade products are primarily interested in supporting the producers and care less about their organisations, the Fair Trade premium can be perceived as a subsidy to the coffee co-operatives.

If the donor decides to support the co-operative with the subsidy  $r$  per unit sold, the way a Fair Trade premium is received, its maximisation function becomes

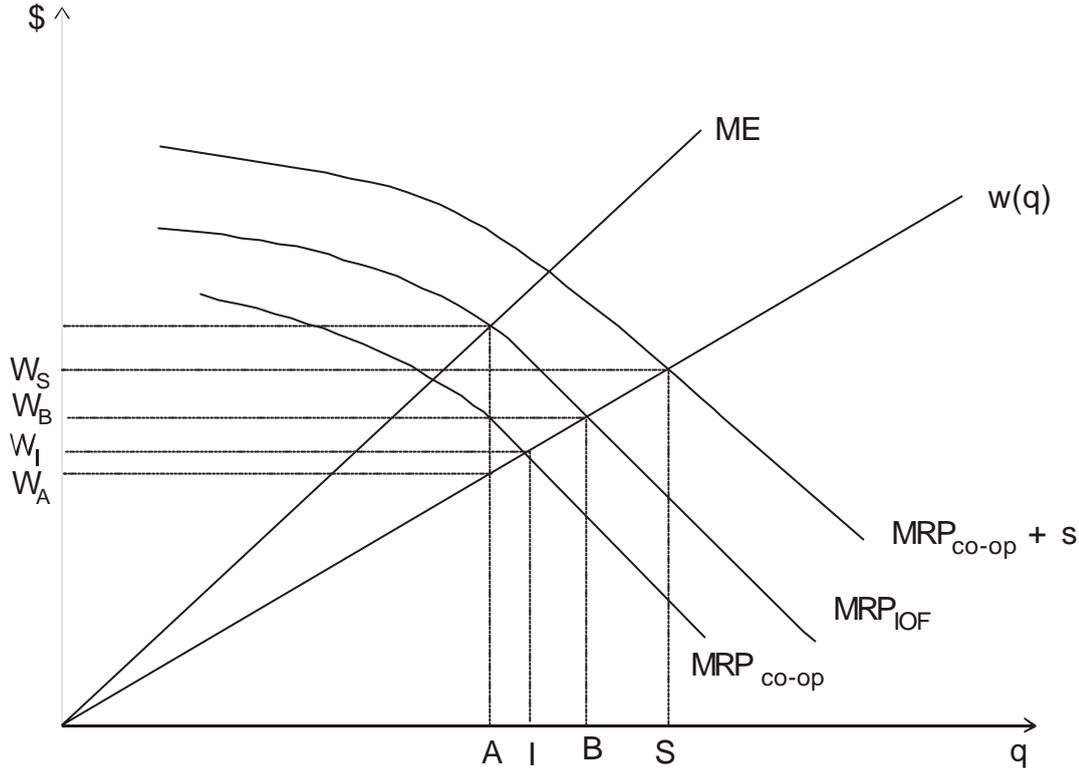
$$(17) \quad \Pi = (1 + r) \cdot p \cdot x(q) - c(q)$$

Maximising with respect to  $q$  and solving gives

$$(1 + r) \cdot p \cdot x'(q) = c'(q)$$

This means that the optimal purchasing level of the co-operative will increase as the MRP curve moves to the right. From this we see that the subsidy ( $r$ ) per unit sold will lead the co-operative to purchase more coffee, and offer a higher price level. This is shown in figure 3.7 below.

Figure 3.7: Market solutions with a subsidised co-operative



We will now try to assess the potential impact of a subsidy per unit sold, or, in other words, the impact of a Fair Trade premium. We assume that the co-operative is income maximising, but still influences the price level of the IOF, for reasons explained earlier. In figure 3.7 the  $MRP_{co-op}$  curve is below the  $MRP_{IOF}$  curve, which means that the co-operative is less efficient than the IOF it is competing with. With no subsidy, the co-operative would purchase the amount  $I$  and pay the price  $W_I$ . It would influence the IOF to pay the same price level, but  $W_I$  is a price level below the socially optimal one, and close to the monopsonist price level. This means that there is a loss of welfare for the farmers in the area in terms of reduced incomes. If the co-operative had been as efficient as the IOF, it would have raised general price levels to the competitive price  $W_B$ .

If the co-operative receives a subsidy per unit sold, its MRP curve will make a shift to the right. A possible outcome is that the two rivals, the co-operative and the IOF, will have the same MRP curve,  $MRP_{IOF}$ . The co-operative will now offer the price  $W_B$  to farmers, and influence the IOF to do the same. Hence, the co-operative plays the competitive yardstick role and restores competition in the market.

But there are also other possibilities. If the co-operative is initially not more inefficient than the IOF, or if the subsidy is very large, the MRP curve may make a shift to  $MRP_{co-op} + s$ . In that case the co-operative's optimal price level  $W_S$  will be higher than the competitive price  $W_B$ , and instead of restoring a competitive situation, the subsidy will create a market distortion. The IOF cannot offer producers the price  $W_S$ , and will stick to the price level  $W_B$ . The co-operative will now be more attractive than the IOF, and it will have to restrict membership if it is going to continue to maximise the members' income. If there are constant returns to scale in the long run, the co-operative can increase its capacities, and take a larger and larger share of the market until it has total market control. The IOF will have to withdraw from the market.

### 3.14 Summary and concluding remarks

For a co-operative maximising the net return to members, it is rational to produce at the point of intersection between the MRP and the supply curve. However, if there are short run excess profits in the market, it will have to restrict the members' deliveries and the entry of new members in order to maintain this output level.

According to theory, only open membership co-operatives will have a positive effect on the price level in the local market in the short run, whereas the restricted co-operative will improve the prices of the members, while the non-members may be victims of monopsony pricing. Hence a market may have two different price levels, one co-operative price and one IOF price.

However, there are several elements outside the model that also make it possible for income maximising co-operatives to have a positive price effect on the market. Their presence may represent a threat to the cartel or the monopsonist, because it reveals to the farmers that they are being exploited. In addition, income maximising co-operatives do not necessarily have to be completely closed to new members. By using mechanisms such as membership fees and waiting lists they can restrict membership to the optimal level, but since they are still partly open, they will influence the price level of the IOF.

But competition is also influenced by other factors than the structure of the purchasing companies and the corresponding price offers, such as the perceived costs and benefits of co-operative membership. One important membership cost is the delayed payment that often characterises co-operatives in developing countries. Such costs will reduce the attractiveness of co-operative membership, and hence make it possible for IOFs to offer lower prices. The same will happen if the co-operative is less efficient than the IOF.

A subsidy per unit sold given to a co-operative in such a situation may prevent the IOF from obtaining monopsony pricing, because it raises the co-operative's optimal price level and increases competition. But the subsidy may also create a market distortion if it increases the co-operative price level beyond the competitive price.

Hence, co-operatives having certain disadvantages that make them either less efficient, or less attractive to farmers, will be less able to play a pro-competitive role. This can be counteracted by a subsidy per unit sold, which means that a Fair Trade premium of the kind that FLO operates can have a positive effect on the general price level for all the farmers in a coffee producing area. In addition, mechanisms that either reduce inefficiencies in the co-operative's business operations, or reduce the costs of membership, or increase the benefits of membership, can have a positive effect on the income levels of the farmers, both members and non-members.

The hypotheses that can be derived from this are:

- Income maximising co-operatives can influence the price level of IOFs behaving collusively (monopsony pricing).
- It is possible for a market to have two different price levels, one IOF price and one higher, co-operative price level. Due to farmers' preferences and membership costs, the co-operative does not have to restrict membership.
- A co-operative that has high membership costs or that is less efficient than its competitors will have less influence on the general price levels in the market.
- A subsidy to the co-operative can influence the price level of the co-operative and of IOFs operating in the same area, and thereby the incomes of both members and non-members.

## 4. Experience with agricultural co-operatives in developing countries

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We have just seen that in an oligopsonistic market, an agricultural co-operative may have a positive impact on the welfare of farmers by raising the general price level. But we have also seen that this effect will be reduced, or even eliminated, if the co-operative is less efficient than the IOFs with which it is competing. This chapter will investigate reasons why co-operatives may be more inefficient than IOFs as economic actors, especially in developing countries. It will also look at the positive attributes of co-operatives, and thereby the reasons for supporting them. Finally we will see why it is difficult to find ways to support them without also increasing their level of inefficiency.

### 4.1 Background

At the end of the colonial era, great optimism was attached to the co-operatives' potential in developing countries. Many believed that as soon as the exploitative colonial structures were gone, the old co-operative traditions of the farmers would lead to the development of a 'modern co-operative economy' (Craig 1993). It was assumed that originally, co-operative structures were a peasant tradition, and that the colonial pattern of inequality had created high levels of inefficiency in rural production systems. Therefore, land reform combined with co-operative reorganisation would unleash an enormous production potential.

In the 1950s, the United Nations and the governments in the newly independent states promoted and incorporated thousands of co-operatives, among them many coffee co-operatives. But, alas, by the late 1960s and early 1970s, the reports of 'dramatic failures far outweighed the fewer, seemingly isolated, success stories' (Craig 1993). In many cases, the co-operatives became hotbeds of political conflict, administrative inefficiency and corruption, and today the word 'co-operative' has a bad connotation for many people (Attwood and Baviskar 1988).

In some cases, the failures can be attributed to the scope of the reforms that took place. Some of them were the results of socialist revolutions, led mainly by urban city dwellers with little knowledge of the situation in the rural areas. They initiated large reforms which implied that villagers were forced to move to state-led collective farms where they were to participate in the joint cultivation of the land. The rural population, which was completely ignorant of the communist ideologies, rarely lived up to the expectations of the designers of these programmes. But also the less ambitious co-operative projects, which merely aimed at replacing private middlemen by marketing co-operatives, and let the farmers cultivate their own land, had only a limited degree of success.

The coffee co-operatives that operated under the International Coffee Agreement (ICA) were often in monopsony positions, but they were often highly inefficient and did not seem to bring the markets into the competitive position depicted in the model described earlier. The co-operatives were also used by governments for taxation and rent extraction. After the ICA dismantlement in 1989, in the cases where the opening up of the markets was successful and led to increased competition, the share of the final price retained by the producers usually increased (Kastele and Zeldenrust 2000).<sup>12</sup>

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<sup>12</sup> The outcome for the total income received by the producers is less clear, as coffee prices have generally gone down since the demolishing of the ICA.

Authors of different disciplines have tried to identify the reasons for co-operative failures, and have also made attempts to determine the conditions for a successful co-operative. This chapter will look at the different findings of these studies, which means we will search for characteristics of the co-operative that might lead to inefficient performance. But before doing that, we will go through what are considered to be the positive attributes of the co-operative, that is, benefits, both economic and social, that might result from a successful co-operative in a developing country.

## 4.2 Aims and potential benefits

As pointed out above, the earlier strong belief in co-operatives as instruments for development was rather exaggerated, considering the many failures. However, this does not seem to have made promoters of development reject the co-operative model altogether. The word 'co-operative' might not be used as often as before, but there is still an emphasis on local organisations in developing countries as an important part of poverty reducing strategies. What seems to happen is that while the large, monopolising, state-led co-operatives are gradually disappearing in many countries, smaller, organised communities are still growing in number.

The co-operatives are believed to have both a social and an economic function. In a process of empowering the poor and marginalised in a developing country, they are important political tools because they make it easier for people to 'have their voices heard and their demands met' (Narayan 2002). But also, as an economic organisation, many will still agree with Deininger that 'in an environment characterised by high risk, incomplete markets for insurance, credit, inputs and outputs, co-operative organisations can perform an extremely useful function' (Deininger 1995).

### 4.2.1 *Economic benefits*

Among the economic benefits attributed to the co-operative are increased competitiveness, economies of scale, credit opportunities, innovation and member education. We have already investigated thoroughly the issue of increased competitiveness, and will now look at the remaining potential advantages of the co-operative organisation.

Processing and marketing of agricultural products are usually characterised by economies of scale. Activities such as transport, processing and acquisition of information about market opportunities are performed more efficiently if the farmers form a group than if each one acts alone. A co-operative is the best way for a farmer to capture the profit that exists in selling the produce directly to an international trader or a retailer instead of to middlemen (Turtianen and Von Pischke 1986).

Members of a co-operative can also benefit from economies of scale in activities other than those directly related to marketing. Credit provision is one example of how a co-operative can benefit its members. A formal credit market for small-scale farmers often does not exist in rural areas of developing countries, and co-operatives can therefore be useful. They are important since they can serve as providers of information about the creditworthiness of borrowers, and because it is more profitable for banks and marketing firms to transact in large quantities. In addition, if they operate with a system of joint liability, the risk of default is reduced (Deininger 1995). However, such credit programs can only be run if the co-operative manages to obtain the resources for it. As we will see later, this can often be problematic in Third World countries.

A co-operative can also benefit from economies of scale if the members use it to attain collective goods such as roads, vehicles, local stores, shops, hospitals and so on. Usually the

provision of collective goods will be the responsibility of the state, and their financing based on tax income. But in many Third World countries, the state does not have the means to supply these goods. The co-operative then represents an alternative. In fact, in many rural areas in developing countries, the existing co-operatives might be the only formal institution involved in serving the needs of rural farmers (Hussi, Lindberg, Murphy and Brennehan 1993).

Co-operatives may increase innovation because they channel technical information about production to farmers. This role is particularly important in cases where '(...)farmers' knowledge base is deficient, government funds are limited, and the economic potential to be realised by adopting agricultural innovation is high' (Deininger 1995). Educating the members on production methods is one way of improving the quality of their produce; another way is to adapt a quality-dependent payment system that would give an economic incentive to the members to provide higher quality products.

#### ***4.2.2 Social benefits: Social capital, empowerment and democracy***

The social benefits of co-operatives are also very important. As grassroots organisations they can become an important part of the country's civil society, contributing to the formation of social capital, and furthering a process of empowerment and democratisation.

Co-operatives that function as democratic organisations, where members actively participate in decision making processes, can have the spin-off effect of creating social capital. Social capital is a 'social organisation, such as trust, norms, and networks, that improves the efficiency of society by facilitating co-ordinated action' (Putnam 1995). According to Putnam, social capital is essential for the creation of a civil society, and a well-developed civil society is one of the preconditions for democracy.

Through local organisations individuals can come together and work towards a common goal. Their primary goal might be something practical and immediately profitable, such as the common marketing of their produce. But as an organised group, they become a part of civil society, and their voices, joined together, are more likely to be heard by the decision-makers. Effective co-operation is thus the key to a 'successful intervention of civil society in the development process' (Molinas 1998). Moreover, in the process, networks are formed, people start trusting each other more and participation becomes the norm. This might increase the welfare of the local community, as it enables people to join forces in other beneficiary activities.

The role of grassroots initiatives as tools for development is widely recognised today, often as part of an 'empowerment' strategy. People living in poverty and isolation are voiceless and powerless in relation to the state and the market. A producer organisation can become part of a process of empowerment, by increasing social capital, and thereby improving democracy. As stated in a recent World Bank publication: 'Reducing poverty requires not only broad-based growth and improved governance at the national level, but also support to bottom-up approaches focusing on poor people and their roles and experiences in the development process' (Narayan 2002).

Generally, the participation of all the inhabitants of a country is an important part of a democracy. Without citizen participation there will be no control over the rulers of the country, and the needs of the inhabitants might not be taken sufficiently into account. One outcome of such a situation could be policies in favour of some pressure groups, at the expense of the interests of other, more marginalised and unorganised groups.

### 4.3 Potential problems

In many cases, the formation of agricultural co-operatives has not led to success, whether economic, social or political. What follows is an attempt to find the causes of this.

#### ***Free riding***

One of the lessons drawn from previous co-operative experience is that without the active participation of the members involved there is little chance of long term success. In collective farms the entire production level depends on the members' participation in productive activities, and participation as such is vital for the survival of the members. Related to this is the free-rider problem, which has been the subject of many investigations, for example by Holmstrøm (1982). But even in marketing co-operatives, where the production takes place at each individual farm, the members' active participation is of great importance for the successful functioning of the co-operative. Managing the co-operative is the joint responsibility of the members, and if members fail to engage in the monitoring of the leadership, there are greater chances of mismanagement and corruption.

Active participation in the process of monitoring the management can be rather time-consuming. One has to attend weekly or monthly meetings, read information given out by the management, be critical, raise questions and ask for explanations, and possibly participate in work-groups. In this, free riding may be tempting, letting other members do the work, and enjoying the benefits without having participated in the process of creating these. This is a Prisoner's Dilemma situation: the optimal situation for an individual is where all the others follow the rules and provide the goods, while he himself shirks, or free rides. Since all individuals face this situation, everyone will shirk, and nobody will provide the goods, although the social optimum is for everyone to participate.

#### ***Costs of control***

The problem with costs of control is related to that of free riding. Several theorists have argued that since a successfully functioning co-operative requires the active participation of its members, it is less efficient than an investor-owned firm. The reason for this is that the control mechanisms of management are different for an IOF and a co-operative, including one that is financed by the members. The co-operative is a democratic institution, usually applying the one-member one-vote system, which means that each member has an equal say in matters of management. The managers of a co-operative can be a few elected members, staff hired externally, or a mixture of both. The IOF is owned by the investors, and their votes are distributed according to their shares in the firm. In both organisations, there is separation between ownership and managerial control. This means that the daily manager is hired and paid by someone whose profit depends on how fruitful these decisions are. Here we have a principal-agent situation, where the principal must create, monitor, and enforce a contract that will induce the agent to maximise the principal's objective function (Porter and Scully 1987). If the managers/agents generate less profit than could potentially be made, the costs are paid by the members/investors/principals, and it is in their interest to correct, or possibly replace the decision makers with someone more efficient.

The managers of a co-operative are monitored by the members. According to Porter and Scully (1987), their monitoring will be less efficient than that of an IOF. Since the members' shares in the co-operative cannot be exchanged in the market, there is no external information such as a stock market price through which the performance of the manager can be evaluated. In addition since each member only gains a portion of the potential profit generated from efficient management, their incentives to monitor are less than those of the

investors with large shares in an IOF, who ultimately have a potential profit in selling their shares.

A related problem pointed out by Deininger is that the lack of indicators for business success in a co-operative inhibits the manager from acquiring the skills necessary to undertake more complex tasks in management and marketing. It is important that this constant business training takes place, particularly in poor countries where initial levels of education are often low, and where the economic environment is changing rapidly (Deininger 1995).

Solutions to the control problems are, as suggested earlier, to increase the members' financial stake in the co-operative in order to give them more economic incentives to participate actively in its management. The costs of control can possibly also be reduced if the size of the co-operative does not become too large, since it is easier to get an overview in a small co-operative than a large one. This, however, is an advice that may conflict with that of profit maximisation, since economic returns will often increase with large-scale operations.

### **Investments**

Much of the critique of labour-managed firms and co-operatives is based on the claim that their planning horizon is too short to conform to the requirements for Pareto optimality (Furubotn 1976). An important dimension of co-operative finance is that co-operative share capital is not permanent. Because co-operative shares cannot appreciate in value, and cannot be sold on the open market, and because the claims on benefits from any investments made by the co-operative usually end with the termination of membership, the investment level of a co-operative is assumed to be less efficient than that of an IOF. The 'horizon problem' implies that members approaching retirement undervalue investments (Porter and Scully 1987). According to Turtiainen and Von Pischke, this makes the co-operatives vulnerable because 'a distributive or short run view is often applied to activities that require a long run perspective for successful implementation' (Turtiainen and Von Pischke 1986).

This attribute of the co-operative is said to make it more likely that members will prefer to receive the surplus of the co-operative as patronage refunds or interests distributed immediately, rather than making profitable investments. In Third World countries the problem is often that people are living close to absolute poverty, and therefore the satisfaction of their immediate basic needs is weighted heavily against prospects of increased future consumption. Poverty often 'entails a low margin to absorb risk and the poor, therefore, are often the most risk-averse. This means that although it may be in their long-term benefit to undertake a certain investment, short-term insecurity prevents the investment from being undertaken' (Ronchi 2000). Investments in national and international markets, or research and development, might not seem worthwhile to the members, both because these are not visible and because they do not show results until after a long time period, compared with investments in machinery or other material goods (Hakelius 1996).

But for co-operatives in developing countries, the main problem in investment is not the short horizon, but the fact that financial resources are difficult to obtain. In general, co-operatives do not have access to financial market institutions or portfolio investors because their shares are not attractive purely as investment vehicles (Turtiainen and Von Pischke 1986). It is difficult for co-operatives to get credit loans from private banks. On a practical level, it is very difficult for individual members to provide the capital required for entering the industry of processing and export, since their income level is usually very low.

The financial problems of co-operatives may not only lead to low investment levels in machinery or other long-term beneficial items, with resulting inefficiencies. The few credit opportunities may also lead to a lack of investment in working capital, which creates an immediate liquidity problem that may potentially destabilise the co-operative's operations. This is a problem particularly for agricultural marketing co-operatives, since they usually

receive the produce of their members before they receive the payment for this produce. Without any working capital, the members will have to wait for their payment, which, as we saw in the previous chapter, makes membership unattractive.

### ***Conflicting objectives***

While IOFs, theoretically, have profit maximisation as their only aim, agricultural co-operatives will usually also have others, of both an economic and social character. Many of these objectives cannot be simultaneously enforced, and conflict will arise, both among the members, who have different preferences, and in management, since attention has to be paid to more than one objective simultaneously.

Within a democratic organisation where everyone has an equal say, it might be difficult to agree upon a common strategy, since 'co-operatives are complex structures combining a number of different groups whose interests may not always harmonise' (LeVay 1983). There are many sources of disagreements that might occur within a heterogeneous group. We have already seen in the previous chapters that co-operatives can choose between an MRP- and an ARP-pricing strategy. The maximisation of profits may conflict with emphasis on the scale of the co-operative (Le Vay 1983). Among other conflicting economic objectives, Staatz (1983) mentions the pricing of different services to members, including the possibility of differential pricing based on members' patronage, and the location of facilities. Members might also disagree on whether to have full distribution of profits, or profit retention to finance collective services and reserves (Ruben 1999). In addition to that, a co-operative might also have many non-economic goals, such as member education, democracy and equity.

The problem with conflicting objectives is not just that the members will have difficulty in finding a common strategy. It is also problematic that when a co-operative management has to pay attention to several objectives simultaneously, tensions may arise between 'running a flourishing business and expressing the wishes of membership' (LeVay 1983). Managing a multiple purpose co-operative that is supposed to be an innovator, educator, a channel for information, a creator of social capital, a provider of services such as credit schemes and other collective goods, a successfully functioning democracy and an efficient enterprise is a demanding task.

## **4.4 External interference in co-operatives**

### ***Government control***

Because of the many beneficial effects attributed to co-operatives, and because of the many difficulties co-operatives face when starting up, many governments have offered their help. This was the case, in particular, in Sub-Saharan Africa (Hyden 1988). Since members often find it difficult to provide the necessary capital for financing co-operative operations, governments have given financial support to co-operatives. In addition, in cases where members did not participate actively in the control and the management of the co-operatives, governments were responsible for their operations. In many developing countries, such as Tanzania, agricultural co-operatives were initiated and run by governments, who appointed managers and contributed with grants and loans (Putterman 1995). The members remained passive.

As mentioned before, a lot of the investments made in the co-operative sector failed to bring about a positive change in the development of these economies. According to Hyden, these types of organisation are 'functioning like sieves', and also 'allow an alarming drainage of scarce public resources' (Hyden 1988). He also claims that the negative trend is most

obvious in countries where public sector enterprises and co-operatives have been allowed an economic monopoly. Hence, the results of our model, that co-operatives in monopsony positions give a socially optimal outcome, do not seem to apply.

The problem with these state monopsonies is that they are not the successfully functioning democratic organisations defined in chapter 3. In many cases these co-operatives served as instruments with which the state attempted to control the local economy (Attwood and Baviskar 1988). Ethiopia is an example of this. After the 1975 land reform, most of the agricultural marketing took place through the state-led co-operatives, and the country's government controlled the prices. In this way, urban dwellers were offered low consumer prices for agricultural products, and the government made a good income. But farmers were left with much lower incomes than the open market would have given them (Degefe and Tafesse 1990).

A World Bank report (Hussi et al. 1993) covering the period 1965 to 1986 stated that participatory agricultural projects failed because 'the groups were not committed to the project and acted more as an extension of the government than as organisations representing the beneficiaries'. Overall, many studies of the co-operative sector seem to conclude that interference by external forces in agricultural co-operatives has given few positive results.

Hyden compares government types of co-operative with local common-interest organisations, and claims that co-operatives that are imposed from above are in reality external to the community. The idea of imposing rural organisations from above is counterposed to the 'greenhouse approach', based on the assumption that 'if only provided with the right stimuli and incentives, people will organise and accomplish tasks of common interest' (Hyden 1988). Being run by external forces is likely to result in inadequate analysis of institutional issues and insufficient capacity building, thus reducing both the technical efficiency of the co-operatives and the development of human resources and social capital formation. This supports the idea that the members' active participation is essential to the survival of co-operatives. It is difficult for a government to replace this participation when it is lacking.

### ***Dependency***

When co-operatives receive financial, technical or administrative support from an external third party, such as a public institution or an NGO, dependency is a potential problem. This means that the co-operatives will stop functioning as soon as the providers of technical or administrative assistance leave. They will not manage to keep going without a constant flow of financial resources. 'There are, throughout Africa, numerous examples of formal and informal groups being developed by external influences and operating effectively during the period in which direct technical and financial assistance is provided, but which cease to function when the outside assistance is concluded' (Hussi et al 1993). Accordingly, rural organisations have the best potential for success if they are initiated and managed by their members.

The dependency created by financial support becomes problematic if the support ceases. If the co-operative cannot manage without financial assistance, the latter's disappearance will lead to the fall of the co-operative. But if the flow of financial support does not cease, and if it comes from a source that can continue to finance the activities of the co-operative without reducing other peoples' welfare, it need not be a problem. In that case, the support will only be problematic if it reduces the ability of the co-operative to achieve its intended goals.

In the previous chapter we saw that subsidies to co-operatives could have the effect of pushing private competitors out of the market, thus creating inefficient co-operative monopsonies. Other examples of unintended effects from co-operative subsidisation are

found, for instance, in studies of co-operative farm credit in Israel, where these types of programme resulted in capital intensification and replacement of labour by machinery, and richer farmers benefiting more than the poor (Kislev, Lerman, Zusman 1991). According to these studies, externally subsidised co-operatives may increase the problem of free-riding and moral hazard. Since members feel less responsible for the economy of the co-operative, inefficient or harmful decisions may be made.

## 4.5 Concluding remarks

The agricultural co-operative as an organisational form has several advantages that, in a Third World country, may contribute to social and economic development. The potential benefits lie in the co-operative's ability to improve competition, increase innovation, make use of economies of scale, and empower the poor by increasing their social capital and their participation in civil society.

However, in developing countries one of the main hindrances to co-operative formation has been that it is difficult for co-operatives to finance their activities, since investors are not interested, banks are reluctant and members are generally poor. It has therefore often been the case that governments or NGOs have intervened and supplied the co-operatives with both financial and managerial support. By doing this, they have hoped to achieve the benefits of the co-operative structure, and the aim has also often been that the co-operatives should be self-sustainable after an initial period of external support.

These types of co-operative project have often ended in failure, and rarely contributed to the economic and social development they were meant to. The main problem with external support is that it often reduces participation level among members, which is essential if the co-operative advantages are to be achieved. When a co-operative is initiated by someone outside the society, the members themselves might not feel the need for such an organisation. And because they get their benefits, their higher price levels and their services without working for it themselves, they do not interact in the co-operative's processes, which inhibits the formation of social capital, and increases the risk of corruption and mismanagement among the administrators. When the members are foreign to the co-operative, it will not achieve its social aims, and its economic performance is likely to be less efficient than that of an IOF.

Hence, external financial support has a tendency to increase the problem of free riding and reduce the productivity of the co-operative. The question is, therefore, whether this is also a problem in Fair Trade. Fair Trade is in a sense financial support that is transferred to coffee co-operatives from consumers in the North. For a part of their exports the co-operatives receive a Fair Trade premium, which they can either distribute to members or spend on the co-operative's operations. One might suspect that this money transfer could have a negative effect on the participation level, the level of efficiency and the independence of the co-operative. On the other hand, Fair Trade is a different system, based on consumers' willingness to support Third World producers, and the transfers are therefore perhaps not comparable to government or NGO support. In the case study in the next chapter, we will look at the impact of Fair Trade on a few selected coffee co-operatives in Mexico.

## 5. Case Study from Chiapas, Mexico

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### 5.1 Introduction and methodology

Chiapas, with its high altitudes and warm climate, has very favourable conditions for coffee production. Coffee producing areas are dispersed throughout the region, from near the coast, up to the mountains and into the jungle. Although there are some large *fincas* or coffee plantations where large-scale coffee production takes place, most of the coffee is cultivated by small-scale farmers who live in so-called *ejidos*, or communal villages. In Chiapas, coffee producers are numerous, while coffee processing companies are few, and coffee exporters even more limited in number. Among the coffee purchasers, there are both investor-owned firms and member-owned co-operatives. Some of the co-operatives purchase and sell locally, and some also export coffee. In Mexico, co-operatives that export are all linked to alternative trading systems such as the Fair Trade market or the market for organic coffee.<sup>13</sup> This means that they have more direct access to the market, and for a certain amount of their exports they receive a premium from the importers.

Because it has a mixed market, with IOFs and co-operatives, a case study from this region will be used to illustrate the theories outlined in the previous chapters. In short, the theories from chapter 3 predict that co-operative presence in a market with imperfect competition between IOFs will have a ‘competitive yardstick effect’. This means that price offers will be higher for both members and non-members. This effect can be brought about by both open and membership-restricting, income-maximising co-operatives, but the way they influence the market will differ depending on the type of co-operative. However, if the co-operative has high membership costs, or if it is less efficient than its private competitors, it will be more difficult for it to survive, and the competitive effect it will have on the market will be reduced. External support may theoretically compensate for these problems, so that the co-operative can still restore competition in the market. However, as shown in chapter 4, financial support has a tendency to create other problems, which may reduce the welfare of the members.

After an introduction to Chiapas and coffee production in Mexico and some background information on production and exporting procedures, there will be a presentation of the co-operatives investigated for the case study. Next we will look at different factors in the coffee purchasing market, indicating whether competition is imperfect or not, and what influence the co-operatives seem to have in this situation. In the following section we will try to establish what membership policies the co-operatives are following, in order to see how they may potentially influence the general price level. The next section describes membership benefits and costs, and how these may influence the co-operatives’ market shares. Having made an assessment of membership costs, we will also identify potential sources of inefficiencies in the co-operatives, in order to see if they are economically disadvantaged compared to the IOFs they are competing with. This allows us to see, finally, what impact support from the Fair Trade system has on their functioning, as well as on the market situation.

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<sup>13</sup> There may be co-operatives that export only conventional coffee, but they were not known to any of the people interviewed for the case study. Renard (1996) also claims that all exporting co-operatives in Chiapas are linked to alternative markets.

## **Methodology**

In order to find information about and get in touch with co-operatives for the case study, a visit was made to the FLO coffee register's office in Utrecht, Netherlands, in December 2000. The aim was to investigate two or more co-operatives, of which at least one had been working for several years, in order to assess the long-term impact of Fair Trade. ISMAM was recommended by the staff at FLO, and when contacted, they agreed to let me do the investigation. Since KAFFE is located in the same region, they were also contacted.

Interviews were carried out with FLO staff members. The interviews were based on studies of co-operative theory. From the interviews, the co-operative literature survey and previously written Fair Trade impact studies, a questionnaire was devised, with specific questions for co-operative staff and members.

Upon arrival in Chiapas, interviews based on the questionnaire were held with people in the different co-operatives. I also had interviews with representatives from other co-operatives, and from private purchasing companies. A tape recorder was used during most of the interviews. Being Spanish speaking, I did not use a translator.

During the field trip, I inspected several of the co-operatives' coffee fields, store-rooms, processing machines and roasting factories, and I attended a community meeting.

## **5.2 Coffee producers in Chiapas and Mexico**

Chiapas is, together with Guerrero and Oaxaca, the state in Mexico with the lowest level of welfare among the inhabitants. Data from INEGI<sup>14</sup> show that more than 22% of the population above the age of 15 are illiterate, while the average for Mexico is less than 10%. Almost 60% of the population live in rural areas, and almost 40% live in housing with a floor of soil. Despite several governmental programmes aimed at improving conditions, Chiapas remains, according to Benjamin (1996), 'a rich land with a poor people'. The natural resources are immense, but due to socio-economic structures that date back to colonial times, the majority of the population does not benefit from them.

Mexico is one of the five biggest coffee producers in the world. Its geography and climatic conditions are favourable for producing Arabica, the mild coffee type with the highest quality. Mexico is also the world's biggest producer of organic coffee.

From 1971 to 1989 the governmental institution Inmecafé (Instituto Mexicano del Café) regulated coffee production and trade in Mexico. Inmecafé's responsibility was to obtain licences and quotas for export, and represent Mexican interests in the ICO (International Coffee Organisation). The producers were not encouraged to participate in the marketing procedures, or the transformation processes, with the result that they never became familiar with the mechanisms of coffee processing or the international market, and were therefore completely dependent on Inmecafé. When the International Coffee Agreement (ICA) was dismantled in 1989, Inmecafé closed down, and the small scale producers who used to sell to the institute did not have any other alternative for marketing their coffee than the private, rural intermediaries.

## **5.3 Coffee production, processing and exporting**

In order to get a better insight into the present situation in the coffee sector in Chiapas, we will now go through the different procedures of production, purchasing, processing and exporting coffee.

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<sup>14</sup> Instituto Nacional de Estadística Geográfica e Informática

### ***Production procedures***

Most Mexican coffee is produced by small scale farmers. Apart from eliminating weeds and fertilising, the main job is to harvest the coffee berries. For those who have more than five hectares of land, it is necessary to hire labourers to get the job done.

Coffee in Mexico is usually processed using the 'wet' method. First the skins of the harvested berries are removed by crushing them, usually in a special device that varies in size and technology: the simplest is a hand driven roller, while the more advanced have engines and assemble the berries in large tanks. After the beans have been separated from the pulp, they have to be washed, then dried. This can be done either by laying the beans out on the ground to dry in the sun, or by using tumble dryers. In Chiapas this part of the processing is usually done by the farmers themselves.

Production costs vary from farm to farm, depending on the type of fertiliser and pesticide used, and on the use of pulping machines and tumble dryers. When coffee prices are low, many farmers cut costs by leaving out the chemical fertilisers and by weeding manually, which will usually decrease the quantity produced. In order to calculate the production costs, one also has to consider labour costs. Because of the need to hire day workers, the costs of production rise with increased use of land for coffee cultivation, especially if it exceeds five hectares. The labour used by the farmer and his or her family also has to be considered as a cost, as this will have an alternative value. Since job opportunities in remote, rural areas in Chiapas are almost absent, there are not many profitable alternative uses of this labour. But there is still an opportunity cost in terms of reduced welfare because of less spare time if the work is intensified. Hence, we can assume, as described in chapter 3, that marginal coffee production costs will increase.

When the coffee beans have been dried they are ready to be sold. The price depends on the quality of the beans, which is determined by the degree of dryness, cleanliness (meaning the amount of stones, wood, and so on, to be found among the beans), as well as the extent of 'mancha' - damage or mould on the beans. More care during the picking and drying process will give a higher quality coffee, and hence a better price.

### ***Organic coffee production methods***

The co-operatives investigated for this study were all linked to the organic market. In organic production no artificial, chemical fertilisers or pesticides are used. The producers use compost for fertilising, which they usually make themselves, often from the pulp from the coffee berries, and in some cases barnyard dung. They also weed around the coffee plants by hand instead of with chemicals. Organic coffee fields are made into terraces in order to irrigate the plants naturally, and to avoid soil erosion. Diseases are also controlled by the use of natural methods such as specific insects. Organic coffee in Chiapas is usually shade grown in order to improve the quality. Organic coffee beans are not tumble-dried; they must therefore be spread out on the ground in order to dry in the sun. Although organic production requires more labour than conventional coffee, it requires less financial cost. Because of the low opportunity costs to labour, organic coffee production can be said to be economically sustainable (Nigh 1997).

Consumers recognise organic coffee by the 'certified organic' label. Their motivation for purchasing organically grown products is, on the one hand, health concerns. Many people believe that if they avoid chemicals in their food, their health will benefit. Many people would also like to be sure that the production of the products they consume has not had any negative impact on the environment. Quality is a third reason for purchasing organic products. Food grown without any chemicals is considered to have a superior taste.

### ***Sales options for the producers***

When the coffee farmers have dried the coffee beans and put them into bags, the beans are ready to be sold. The farmers have several options. One is to take the bags down to one of the closest cities where the processing companies and exporters have their offices and storage rooms. This is an option that mainly those with a large crop will take up. The roads in Chiapas are poorly maintained, and most of the coffee farms are located in remote areas, either high up in the mountains or in the jungle. For most of the small-scale farmers who do not own a vehicle, making such a trip, without knowing the outcome, is considered high risk.

The second option is to sell to the private intermediaries. These are businessmen with their own vehicle, who receive an advance payment from the processing companies, and then travel the countryside to purchase coffee. They arrive at the village and pay the farmers the value of each coffee bag the moment it is handed over. The price they pay is usually lower than the farmers would receive if they went themselves to the processing company.

The third option is to become a member of a co-operative. The co-operatives have different systems for collecting, storing and paying for the coffee they receive, as we shall see later.

### ***Processing and exporting procedures***

The coffee the farmers sell is called '*café pergamino*', because the beans still have a thin, paper-like shell around them. Processing means removing these shells and turning the coffee into '*café verde*', green coffee, as well as removing sticks, stones and so on. Usually, processing also includes separating the beans according to size, colour and quality, and fermentation in tanks, in order to develop the flavour. Before leaving the processing factory, the green coffee is packed in bags each weighing 57,5 kilo (one *quintale*). Green coffee that is bound for export will be loaded into containers and taken to the harbour (usually in Veracruz), where it will be sent by ship to either the USA, Europe or Japan.

There are many costs involved at different levels in these procedures. Processing itself requires the use of special machinery and equipment, and investment in a processing factory is costly. Coffee exporting is also a business that is difficult to enter without the necessary resources for transport, insurance, storage, safekeeping and customs duty, and for marketing in order to find customers. In order to succeed, it is also necessary to have people with the right knowledge and skills to perform the tasks of processing and exporting. This means that one needs both people with technical, administrative and logistic skills and people with knowledge about the coffee trade.

Due to fixed costs, a certain volume is necessary in order to earn money from exporting coffee. According to one of the persons interviewed, it was necessary to sell at least 10 000 *quintales* of coffee to make a profit. It is not easy for a newly started company to reach such a large volume. Assuming that each farmer produces 30 *quintales* of coffee, which is the average production level, this means that one would have to purchase the entire coffee crop from at least 333 farmers.

But coffee processing is also subject to capacity constraints. As long as there is free capacity at the processing plant, there are economies of scale in processing. When its capacity is used up, it will be necessary to hire machines, or buy new ones. Purchasing coffee will be subject to decreasing returns to scale, since increasing the volume means buying coffee from a larger and larger area, and hence the transport costs will increase. This corresponds to the concave MRP curve of the processing companies used in chapter 3.

Entry to the international sales market is considered difficult, especially for small, unknown IOFs or co-operatives. International traders and roasting companies are sceptical about buying from an exporting company they do not know, since they risk not getting the

volume and quality they sign the contract for. Exporting also includes a degree of risk from the exporter's side. They might not receive their payment from the importer if operations are not handled correctly, as happened to one co-operative in its starting phase.

## 5.4 Presentation of the co-operatives

There are today 36 FLO-registered coffee co-operatives in Mexico, and many of these are situated in Chiapas. They are all marketing co-operatives, meaning that they purchase coffee that the members themselves have produced on their individual farms. The co-operatives take charge of processing and exporting the coffee abroad. The two co-operatives that were investigated for the case study, ISMAM and KAFFE, will now be presented briefly.

### ISMAM

ISMAM (Indigenas de la Sierra Madre de Motozintla) was the result of a project initiated by the Catholic church of Tapachula in 1985. Today the organisation has around 1350 members dispersed over a very large area, in 53 different zones in the southern part of Chiapas. The number of members has been relatively stable for the last 6-7 years. The volume produced in 2000 was 62,551 *quintales*, which gave the co-operative an income of about 9 million USD. Around 20% of the coffee sold received a fair trade premium. Only organic coffee is exported. ISMAM also sells organic and conventional coffee locally.

### KAFFE

KAFFE, situated in Comitán in the highlands of Chiapas, operates in a different way from ISMAM. It is a so-called second degree co-operative, which means that it exports the coffee of several independent producer organisations. At the time of the field visit, five different co-operatives were exporting their coffee jointly through KAFFE: Kulaktik, Posi, Juan Sabines de Guiterrez and Tzijib Babi. This means that they could benefit from economies of scale by exporting a larger volume than each of them could have done independently. The co-operatives also benefit from the knowledge of the managers of KAFFE, who all have lengthy experience from another coffee exporting co-operative, Union de la Selva, where they had worked until 1999, when it also lost its registration with FLO. This knowledge is now being used both for the exporting procedures and for providing consulting services on administrative and technical issues to the co-operatives linked to KAFFE. The operations of KAFFE are partly financed by the members of the co-operatives (60%); the rest is paid by FLO and the organisation Twin Trading.<sup>15</sup>

During the visit, I had conversations with the staff of the two KAFFE-linked co-operatives Tzijib Babi and Juan Sabines. Tzijib Babi was officially created in 1998, and came into contact with KAFFE at the same time. Juan Sabines has been a co-operative since 1982, and initially sold through Union de la Selva, but started co-operating with KAFFE when it was formed.

### Other co-operatives

Interviews were also conducted with staff members of Union de la Selva, as well as Maravilla Tenejapa, a co-operative that was not yet exporting coffee abroad.

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<sup>15</sup> Twin Trading is the trading arm of the Third World International Network, established by the now defunct Greater London Council. This network aims to promote sustainable economic development by strengthening farmers' capacity to export and market their products.

	ISMAM	Juan Sabines	Tzajib Babi	Union de la Selva	Maravilla Tenejapa	KAFFE
<b>Year initiated</b>	1985	1982	1998	1972	1990	1998
<b>Year of registration with FLO</b>	1987 (through UCIRI)	1999 (through Union de la Selva)	1998	1988 (through UCIRI ) Registration lost in 2000		1998
<b>Year of independent exporting</b>	1990	2000 (through KAFFE)	1998 (through KAFFE)		Not exporting	1999
<b>Membership level</b>	1350		712	800	612	
<b>Number of Communities</b>	53	22	27	36	14	
<b>Staff</b>	70 people	12 people		6 managers, 3 directors, 6 technical staff		4 managers, 3 assistants, one quality controller
<b>Export level 2000</b>	62551 <i>quintales</i> , worth 9 million USD.		4500 <i>quintales</i>			
<b>Composition of production and export</b>	Almost 100% organic, 20% of export is fair trade	30% of production is exported, all of it is organic			257 producers of organic coffee	
<b>Membership restriction</b>	In 2001 membership fee 1000 pesos, waiting time 3 years, use organic methods	Membership fee 50 pesos, compulsory to deliver 50% of harvest to co-op	Use organic cultivation methods		course, exam	
<b>Waiting time from delivery to payment</b>	None	1-2 1/2 months	From none to 40 days		15 days	

## Marketing procedures

The co-operatives have different schemes concerning transport and storage of the members' coffee, depending on the size, dispersion and economy of the co-operative. ISMAM owns a number of vehicles that drive to each of the 53 zones to collect the coffee from the members, and to bring it back to Tapachula where the storage room is situated.

The KAFFE co-operatives' members are concentrated in a much smaller geographical area than those of ISMAM, and their storage rooms are therefore located closer to the member population. They also have several smaller storage rooms in different places, instead of just one. It is the members' own responsibility to bring their coffee to the cellars. The co-operatives take charge of moving the coffee onwards from the storage room.

The ready processed '*café verde*' is packed in bags and brought to the port of Veracruz for exportation. Since the co-operatives do not manage to sell all their coffee to foreign importers, some is sold locally to private purchasing companies. The low quality coffee is usually sold locally, and the high quality coffee is exported. Because of high transfer costs, exporting low quality coffee abroad is not profitable for the co-operatives, and they therefore specialise in high quality production, such as shade grown and organic coffee.

### **Organic certification**

Organic coffee is paid a premium of 15 USD extra per *quintale*. Importers of Fair Trade coffee often want it to be organic, since Fair Trade coffee consumers tend to have a preference for organic products. The interviewed co-operatives all export organic coffee, and each year they pay for organic certification. Representatives from OCIA (Organic Crop Improvement Association) or 'Naturland' come to Chiapas, and do tests on the land to see if there are chemicals in the soil. This is a costly process, and a certificate costs around 20-60,000 pesos, depending on the size of the co-operative. Without being organised it would be impossible for small-scale farmers to sell organic coffee, as each one alone could not afford to pay for the certificate.

The co-operatives that sell organic coffee have their own technical staff to teach farmers how to grow organically, and do tests on each farm before the arrival of the international certifying organisation. It is very important that none of the producers fail to follow the criteria, and the co-operatives therefore have to put a lot of effort into both educating the members, and testing the coffee. The technical staff also teach the farmers how to improve the quality of the coffee, by using the shade of other trees, handling the beans carefully and so on.

### **Co-operative prices**

Because of the Fair Trade system and the organic premium they receive from customers, all of the co-operatives are able to offer higher prices than the IOFs. The value of the Fair Trade premium varies according to the international coffee price level: The greater the distance from the guaranteed minimum price, the higher the premium. When the international coffee price is above the guaranteed minimum price, it will follow the international price, and always stay 5 US cents above. In April 2001 the Fair Trade price for washed Arabica from Mexico<sup>16</sup> was 126 US cents per pound, while the general price level for Mexican Arabica was 54.12 US cents per pound, which means that there was an exceptionally big difference between the two price levels. The difference is not fully reflected in the co-operatives' price offers, since only part of their exports was meant for the Fair Trade market.

At the beginning of the harvest, the cooperatives know more or less how much they are going to export and how much income this will generate. From these estimates, and from the prevailing price offer of the local intermediaries, a co-operative price level is determined. Being democratic organisations, it is the members themselves who decided what price they should get. It is always supposed to be 70-200 pesos higher than the intermediary's price, but low enough to cover the co-operative's expenses.

## **5.5 The competitive yardstick effect of the co-operatives**

In chapter 3 we derived a model predicting that in a situation with imperfect competition, a co-operative will have a pro-competitive influence on the market. According to our findings, co-operative presence will lead to higher prices being offered by IOFs that would otherwise be engaged in collusive behaviour or Cournot oligopsony. We will now see if this prediction applies to the Mexican situation. We will first identify elements indicating that this coffee purchasing market is characterised by imperfect competition. Then we will see what influence the presence of the co-operatives seems to have in this situation.

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<sup>16</sup> The most common export crop of the co-operatives in Chiapas

### ***Oligopsonistic competition***

It seemed to be the general opinion among coffee farmers in Chiapas that coffee purchasers offer a lower price than they should, or could do. Studies from Chiapas (Renard 1996) and other similar market situations (Gresser and Tickell 2002, Lopez and You 1993, Hussi et al 1993) share the view that imperfect competition is a common problem in rural areas in developing countries. But it is difficult to find any direct proof, since access to the budgets of the intermediaries or the exporting companies is not readily obtained.

What can be said is that the characteristics that, according to economic theory, will lead to oligopsony or monopsony are present. There are many barriers to entry to the processing and exporting business: economies of scale up to a certain volume, the many requirements for managing the trade that very few people in this area possess, and the difficulties and risks involved in entering the business. As a result, there are very few exporting companies in the area. The market is clearly dominated by the processing and exporting company AMSA (Agroindustrias Unidas de Mexico S.A. de C.V.), which is owned by the multinational company ECOM Agroindustrial Corporation Ltd. Others, such as Canasur, Café Holanda, Maya and the marketing co-operatives, are much smaller.<sup>17</sup>

The limited number of purchasers makes imperfect competition possible, either from collusive behaviour or Cournot competition. Asymmetric information is also characteristic of these areas. Due to low levels of education and inadequate infrastructure and communication, producers are not well informed about international prices and coffee quality requirements. Transport costs also make it easier for purchasers to have their own territories and reduce competition.

The intermediaries were viewed with a great deal of suspicion by most of those interviewed. Almost everyone invariably referred to them by their nickname *coyote*. A coyote is a North American prairie wolf that feeds on dead animals, and the name is also used for those who have made a business out of smuggling people across the border to the USA. The name has an unmistakably negative connotation, and it indicates that the *coyote* are seen as people who benefit from other people's misery.

A lot of the coyotes/intermediaries are also moneylenders, and for most of the coffee farmers their offer to lend money is the only one available, since the banks are unwilling to lend to small-scale farmers. In Chiapas, most coffee farmers often need to take out credit loans, especially just before the harvest, when last year's payment has been spent and money is needed for paying labourers, renting vehicles, or just general living expenses. The costs of the intermediaries' loans are high with monthly interest rates between 10 and 20%. In addition, coffee farmers are usually obliged, after harvesting, to sell their coffee to the moneylender at a price lower than the market price. Failing to fulfil this promise means the denial of any loans in the future, including from other intermediaries. The reason for this was said to be that the intermediaries have their own information network, and they have divided the area between them, so that no one will steal customers from the others. Since the farmers' only possible access to credit loans is through the 'coyotes', they are rather powerless in negotiating with them. Rural credit markets where lenders are well-informed about the borrowers and collude on monopoly prices are also found in many other places (Hatlebakk 2000).

If the intermediaries do not compete with each other when operating as moneylenders, it is likely that they co-operate in order to offer lower coffee prices than would have been the case in a competitive situation. I was told that all the intermediaries who came to the villages would quote the same price and never try to gain more customers by offering a price a little

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<sup>17</sup> Nestlé, which is also a major purchaser of coffee, only buys ready processed coffee, and therefore does not enter the chain until the next stage.

higher than the others. The farmers were sure that they agreed on a specific price level, and offered this to everyone. Since the coffee purchasers are also moneylenders, on whom the farmers depend for credit loans, their bargaining power is reduced, as it is when determining the quality level of the coffee they sell. This is an example of an interlinked market situation, where the bargaining power of the intermediaries is increased by their role as moneylenders.

Most people were also of the opinion that the intermediaries were making good money from their business, and that most of them had a high standard of living. However, it is difficult to determine what should be an adequate payment for the type of work performed by the intermediaries, because there might be hidden costs involved. The representative for the exporting company AMSA said they paid the intermediaries a certain price, and did not decide what they in turn were to offer the coffee producers. The representative said that if farmers thought intermediaries did not offer them a good enough price, it was because they disregarded the fact that driving around in the countryside with large amounts of money included a lot of risk. On several occasions intermediaries had been assaulted and mugged. According to AMSA, the high incomes were merited and not in themselves proof that intermediaries were making excessive profits.

But those interviewed also claimed that exporting companies, like the intermediaries, were 'territorial', that they were co-operating instead of competing with each other, and thus were able to offer lower prices. There are about 25-30 exporting companies (including co-operatives) in all of Chiapas, and the private ones are said to have divided the state between them. This means that no company will go to another company's territory and offer producers a higher price. Because of the large distances to many of the villages, and the lack of adequate infrastructure, it is difficult for farmers to travel themselves to sell their coffee, and so it is relatively easy for the exporters to separate the market. Unfortunately, it was beyond the scope of this report to find any proof other than people's statements and opinions that this type of tacit collusion is actually taking place.

### ***The impact of co-operative presence***

Interviews with members and staff of the co-operatives indicate that the co-operatives had a pro-competitive role both at the level of the intermediaries and at the level of the exporting companies. According to them, the presence of democratic organisations offering better prices than those of the intermediaries made the intermediaries increase their prices. According to several of those interviewed, purchasing prices are higher in areas where co-operatives are present than in areas where such organisations are absent.<sup>18</sup> I was told that in areas where co-operatives had started purchasing coffee at a higher price, the private, intermediary purchasers had increased their price offers as well. There were also stories about how the 'coyotes' were menacing producer organisations, which also indicates that these had a negative influence on their income levels.

Similarly, it was claimed that the exporting companies' prices are higher in areas with a co-operative presence than in areas without. I was also told that since the co-operatives would make them lose money, the multinational companies had on several occasions offered higher prices than the co-operatives in order to get them out of business. Since these are very large companies, vertically integrated with international traders, they can afford to use such strategies. In one case, when the KAFFE-linked co-operative in Kulaktik had just put up a storeroom, AMSA came and put up another storeroom next to it and offered the farmers a better price. They were also said to be offering higher prices to farmers who did not sell any of their coffee through a co-operative, in order to make the co-operative lose members.

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<sup>18</sup> The examples that were given of areas with no co-operative presence and lower prices were Ocosingo and Altamirando. I did not have time to go to these areas to have the statements confirmed.

Another example given was when Union de la Selva raised its price offer in 1995, and AMSA immediately offered a price increase.

Hence, the co-operatives in Chiapas do seem to influence the price level of their private competitors in the way described in the theoretical section. Although there are no data to prove it, the stories that lead to this assumption came from different people with different backgrounds, and it is unlikely that they were all mistaken.

What will be looked at next is how this ‘competitive yardstick effect’ is brought about. That is, we will see if the co-operatives are open, and therefore represent an alternative to non-members, so that IOFs have to increase their price level in order to stay in the market. Alternatively they could be closed, but acting as ‘barometers of exploitation’.

## 5.6 Co-operative regulations and objectives

### *Membership regulations*

All of the co-operatives interviewed have membership regulations and are not open to everyone. But restrictions vary between the different co-operatives, and the rules are not always the same every year. The co-operatives seem to use the regulations in order to keep membership at a certain level.

ISMAM was undoubtedly the co-operative with the strictest regulations. Only farmers who were willing to use organic production methods were allowed membership. In 2001 new members had to pay a fee of 1000 pesos, and they had to wait for 3 years from being registered until they could sell organic coffee through the co-operative.<sup>19</sup> Tzajib Babi would only allow organic producers to enter the co-operative, but their waiting time was shorter, and they did not have any membership fee in 2001. Juan Sabines allowed non-organic producers to become members. They did not have a waiting time for producers of conventional coffee, and they had a membership fee of only 50 pesos.

Co-operatives registered with FLO have to follow certain criteria. The Fair Trade premium should only go to small-scale farmers; therefore, only producers with land areas of less than 10 ha can become members. Members are not allowed to buy coffee from non-members and sell it to the co-operative, since this would mean that the co-operative could not control who received the premium. In addition, all of the co-operatives have compulsory introductory courses for new members, and all the members have meeting obligations.

### *Regulation of deliveries*

The profits from the co-operatives are paid as part of the price members receive, and not as a lump sum, which means that the more one delivers, the more profits one receives.<sup>20</sup> This should, according to the theories described in chapter 3, result in a higher co-operative purchasing level than in one that maximises net returns to members. None of the co-operatives have any upper limit to how much coffee members can deliver to the co-operative. The only co-operative interviewed that had delivery regulations was Juan Sabines, where

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<sup>19</sup> The waiting time can be justified by the fact that the soil needs to recover before certified organic coffee can be harvested from it. In the meantime, the members who were in transition to organic production could sell so-called transitional coffee to the co-operative. The price offered for this type of coffee varied between the different co-operatives, but in general it was more than for conventional coffee, but less than for pure organic coffee. Transitional coffee could sometimes be offered at the price of organic, although it did not receive the organic premium when exported.

<sup>20</sup> However, some of the profits were invested in the co-operative, and the profits generated from some of these investments were distributed evenly among the members.

members were obliged to sell at least 50% of their harvest to the co-operative, meaning there was a minimum delivery requirement, not a maximum.

Rather than receiving too much coffee from members, the problem seems to be that members do not sell enough coffee to the co-operative, making it difficult to fulfill customers' orders. The problem is less serious in co-operatives with organic producers, since members can only receive the organic premium if they sell to the co-operative.

### **Co-operative strategies**

We have just seen that membership levels are to a certain extent restricted, whereas members' deliveries are not restricted at all. There is reason to believe that co-operatives want to regulate quantities in order to remain income maximising, but still it is not necessary to regulate deliveries. The reason for this is that the farmers are all small-scale producers, and their ability to increase production levels is limited, as it is by the co-operatives' regulation of a maximum 10 hectares. Therefore, in order to keep the volume of coffee at a certain level, it is sufficient to restrict the number of members.

There is clear evidence that ISMAM uses membership regulations actively in order to obtain a specific level of membership and a corresponding volume of coffee. The membership fee and the waiting time vary with the international price level, and the larger the difference between the co-operative price and the intermediaries' prices, the higher the membership fee and the longer the waiting time. Higher general price levels mean that fewer farmers want membership. For instance, in 1994, when international coffee prices were twice as high as in 2001, the membership fee was only 50 pesos, and the waiting time 6 months. For the last 6-7 years, ISMAM's membership level had been kept stable at around 1500, a stability that seems to have been achieved by active membership regulation.

It is interesting to note that it was much more difficult for someone to become a member of ISMAM than to become a member of any of the other co-operatives, despite the fact that they all offered more or less the same price level, which in 2001 was much higher than that of the private intermediaries.<sup>21</sup> This could imply that Juan Sabines and Tzijib Babi have a larger growth potential and would be able to export more if they grew in size, whereas ISMAM might have reached its capacity constraints. One may assume that co-operatives have a smaller ideal size than private firms, because an administration based on democracy requires transparency, which becomes more difficult to achieve in a larger organisation.<sup>22</sup> Juan Sabines and Tzijib Babi are still relatively small co-operatives with the potential to grow in size, and KAFFE sold a larger share of their coffee as Fair Trade than ISMAM, which means that the profits they make are high.

But it is not certain that the difference in membership regulations is due to the co-operatives' different growth potential. It could also be that the co-operatives have different motivations, and that Tzijib Babi, which is a newly started co-operative, is more idealistic than the long time operating ISMAM. The year of the field visit they had decided to let 10 more communities enter the co-operative, and in the interview they said they did it because they wanted to be big and powerful and 'combatir el coyote', beat the intermediary. It may thus seem that maximum output and not maximum return to members was the main objective of this co-operative.

Investigations of the membership regulations of these co-operatives show that although they might be income maximising, they are not entirely closed to new members, and some of them are almost completely open. This implies that they could be influencing the

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<sup>21</sup> Generally, in March 2001 the co-operative price was 650 pesos per *quintale*, while the intermediaries offered 480 pesos for the same amount.

<sup>22</sup> This is why it is unlikely that there are long run constant returns to scale for a co-operative.

price level of their competitors by representing an alternative to non-members. If the price levels offered by the intermediaries/exporting companies are low, producers are more likely to wish to join the co-operative, and this will make the IOFs lose market share. Hence, they may decide to raise their price level.

However, if the price level of the co-operatives is higher than that of the IOFs, how can they remain partly or almost completely open? Why are they not run down by producers searching for the best price? It cannot be explained by geographical distance or lack of information, since in Chiapas, members and non-members live next to each other in the same villages. But the difference in the co-operatives' restrictions could also be seen as evidence that a higher price level alone is not enough to have a large number of farmers knocking on the co-operative's door. More precisely, the difference in membership costs and benefits, and not just different objectives or different returns to scale, could be the reason why the co-operatives have different membership regulations.

## 5.7 Co-operative costs and benefits

In chapter 3 we looked at how the farmers' valuation of the co-operatives' costs and benefits partly determined their share of the market. Membership costs and benefits were said to be the reason why there may be one co-operative and one IOF price in the market. It was also shown that high membership costs will reduce the competitive yardstick effect of the co-operative, since its reduced attractiveness will loosen the pressure on the IOFs to increase their price levels. This means that if there are membership costs, only a higher co-operative price offer can generate a competitive outcome.

In this section we will look first at the benefits, then at the costs of membership of the co-operatives in Chiapas. From this we can see how the theoretical model applies to this market situation, and we can also clarify the question how the price levels of the IOFs are influenced by the co-operatives' presence.

### 5.7.1 *The benefits*

Apart from the higher price level, the benefits offered by the co-operatives were the credit schemes, their lobbying activities and their education programmes.

#### **Credit schemes**

ISMAM was the only co-operative that offered its members credit loans. They can borrow 3000 pesos for every hectare they own at an annual interest rate of 14%, which is considered to be very good, especially compared to the interest rates of the private moneylenders. Nearly all of the members took out a maximum loan every year.<sup>23</sup>

The other co-operatives did not have such an agreement with the banks, but because of the attractiveness of credit schemes, they were all planning to create a 'caja de ahorros' (savings box) in order to lend their members money when needed.<sup>24</sup>

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<sup>23</sup> According to the treasurer, around 5% of members fail to repay the money owed, and ISMAM is responsible for repaying the bank. However, they expect the failing members to repay the following year, which they usually do. In some cases, the community will be responsible for each member's repayment.

<sup>24</sup> The staff of Tzajib Babi said they did not want to make an agreement with the bank similar to that of ISMAM, because they did not trust the members enough to want to guarantee the loans. They said the farmers had previously received many gifts from the government, and were not used to having to pay back anything. They thought it would be different with a 'caja de ahorros,' since the farmers would then know that it was their own savings that were being lent.

## Lobbying

All of the co-operatives lobby governmental organisations in order to obtain grants available for small-scale producers. On average, co-operative members received 1000 pesos every year in the form of grants. Unorganised farmers are less likely than co-operative members to receive such grants, so this is clearly an advantage of co-operative membership.

The co-operatives do not just lobby for money; some are also engaged in politics and are fronting the causes of the farmers in public.<sup>25</sup> Possibly this could create a positive image of the co-operative, and thereby increase their attractiveness to potential members.

## Education and empowerment

Members receive different kinds of information from the co-operatives, both from the courses they have to attend before they are inscribed, and from the meetings that they are obliged to attend.

Since they all sell organic coffee, the preliminary courses always include a technical section in which the members are taught organic, quality improving production methods. Other aspects are also covered in the courses, such as the reasons for poverty and marginality, and possible solutions, as well as knowledge of women's rights, health, sanitation and environmental issues, and the functioning of the international coffee market. The managers see the course as a very important aspect of co-operative benefits. It is believed that farmers do not just need extra income and security in order to move out of poverty. It is equally important that they go through a process of awareness raising, in order to see their situation clearly, and understand what they are able to do and what they should not do. A better understanding of the coffee market could lead to an empowering feeling of more control of their situation.

Many members emphasised the value of being united as a group, particularly the development potential that this gives. They also appreciated the feeling of not being at the mercy of the intermediaries. Co-operative membership helped people create networks with other members, and they could help each other out in difficult situations.

## Investments and other benefits

Most co-operatives attempt to invest in other fields than green coffee marketing, in order to increase their income. ISMAM seems to be the co-operative that has achieved most in this. The members have invested in a large and modern roasting machine worth 1.5 million USD. They have created the company Mam Maple, through which they market ready-toasted, ground and packaged coffee. The surplus of this company belongs to the members.<sup>26</sup> ISMAM has also created links to a co-operative producing cocoa beans and a group of farmers producing honey, and these products are being marketed through Mam Maple. In addition, together with some local fishermen, they hope to be able to construct and run an eco-tourist resort. ISMAM also offers members legal defence.

The other co-operatives have initiated some less extensive projects, such as village shops or saving schemes for small groups within the co-operatives.

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<sup>25</sup>At the time of my visit ISMAM had recently played an important part in a political matter concerning the coffee price. The biggest purchasing company in Mexico, Nestlé, had on 30 November 2000 received permission from the government to import as much coffee as it wanted from Vietnam, where coffee prices are very low. Permission like this had never been given before, and the reason why Nestlé had been given it was much sought after. Many people suspected that there was corruption involved. Partly as a result of the announced imports, the purchasing price for Robusta coffee fell from 6 pesos per kilo to 2.50. ISMAM took the initiative in mounting a protest campaign through the media, and they also attended official meetings about the issue. As a result, Nestlé agreed to double its purchasing price. It is interesting to note that this manoeuvre benefited mostly farmers outside of ISMAM, since ISMAM itself produces mostly Arabica coffee.

<sup>26</sup> So far the surplus had all been spent on repaying the company's debts

## 5.7.2 *The costs of membership*

### **Delayed payment**

One of the main problems of the co-operatives is that they do not have enough working capital. There are two alternative solutions to that. One is to take out expensive loans, which implies paying a lot of interest every year. At ISMAM the payment of interest rates in 2000 amounted to 31% of the total expenses of the co-operative. This was considered a big problem. An alternative to borrowing money is to let members wait before being paid for their coffee deliveries. The disadvantage of this is a reduced utility level for the members who have to wait before they get their money. Members are therefore more prone to break their agreement with the co-operative and sell to intermediaries who will pay on the spot instead of waiting for a delayed payment. Hence the co-operative might not be able to deliver the amount of coffee the clients have been promised.

Thus co-operatives face much larger financial difficulties than an IOF vertically integrated with international traders. Their difficulties are also greater than those of co-operatives in industrialised countries, where bank loans are more readily available, and where members live much further away from absolute poverty and therefore can more easily afford to build up financial resources.

The delayed payment is a considerable membership cost. Farmers would probably be less sceptical about the co-operative if they were guaranteed a payment immediately instead of long after delivering their coffee. ISMAM has this guarantee, but members have to come to Tapachula to receive the payment. This is a disadvantage compared to the intermediaries who pay at the spot, especially for members who live more than a days' journey away. The other co-operatives often have to let the members wait for a month or more before they receive their payments. For some of the farmers the economic situation is so tight that they cannot wait that long. Knowing that it is common for people to take out loans with extremely high interest rates from intermediaries just before the harvest, and that farmers sell their coffee wet and therefore much more cheaply because they need money, it is clear that even a week or two could be too long to wait.<sup>27</sup>

### **Other costs**

At the co-operatives where organic cultivation is a criterion for entering, other costs were said to be the factor that put most producers off. Organic cultivation requires almost 40% more work,<sup>28</sup> which is not insignificant. Although the opportunity costs are low, the extra work spent on coffee growing means less leisure and therefore decreased welfare. It also means less time for growing other crops such as maize, beans and other vegetables.

Another reason for the low level of interest in membership could be that there seemed to be a lack of trust in this type of organisation, which required payment of an entry fee and perhaps delivery of a whole years' harvest without giving payment for it until later. Some of the co-operatives that had offered a high price in the beginning had been forced to decrease the price in the middle of the harvest as they ran out of money. There were also stories about co-operatives where the management had taken the members' money. A straightforward deal with a 'coyote' might therefore be preferable.

The meeting obligations can also be seen as a cost. Every month there are meetings, and the penalty for not showing up is usually expulsion from the co-operative. Judging from

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<sup>27</sup> The payment system can also be a membership cost in other ways. During the field trip I assisted at the payment to some of the members of Juan Sabines. They waited from four in the afternoon, and at two in the night the last member received his cash. However, there were no complaints and no disagreements.

<sup>28</sup> According to the agronomists at the co-operatives

the meeting I attended at an ISMAM community, the meetings can be long and probably rather tiresome for people who have worked hard during the week.

### 5.7.3 *Co-operative influence on market*

An investigation of the co-operatives' costs and benefits will tell us something about their membership regulation policies, their relative market share and the price influence they have on the market.

As with their membership regulations, we have seen that the relative costs and benefits of membership vary between ISMAM and other co-operatives. ISMAM has lower membership costs because it always pays members at the time of delivery, and it has a long lasting reputation as a trustworthy organisation. It also has a benefit that other co-operatives do not have: the very attractive credit scheme. As a result, ISMAM is undoubtedly more attractive than the other co-operatives. This explains why it has the strictest membership regulations, without which more members would have entered and larger quantities of coffee than it could export would have been supplied. For other co-operatives, the delayed payment and the insecurity this implies are perhaps costs enough to prevent more people than they could cope with from entering.

At the time of the field study, membership costs did not seem to reduce the co-operatives' optimal market share. Since they all, to a certain extent, had membership regulations, they did not seem to have a problem in getting enough members and a large enough volume of coffee. It should be noted that this field study was done at a time of exceptionally low market prices for coffee, and therefore the price difference between co-operatives and IOFs was exceptionally high. The variation in ISMAM's regulation policies prove that at times of high coffee market prices, involuntary membership costs are enough to regulate membership levels. Previous studies from the same area and from similar coffee producing markets (Renard 1996, Schuurman and van Driel 1999) show that at times of high international coffee prices, it is difficult for co-operatives to get a high enough volume for exports, which means that the price difference is not high enough to compensate for membership costs. This may cause a reduction in the market share of co-operatives, and also a reduction in their impact on the general price level, as depicted in chapter 3.

Since co-operatives remain partly open they represent an alternative to non-members, and are therefore a threat to the IOFs, which have to increase their price levels in order not to lose their market share. But their impact on the general price level could also stem from other mechanisms. It was mentioned earlier that private purchasers could behave collusively because farmers were uninformed about general coffee prices and quality determination. The educational programmes run by the co-operatives increase the level of knowledge among farmers of coffee production, quality and international prices. This was said to bring about a general strengthening of farmers' bargaining power: with a co-operative in the area they become better at bargaining with the intermediaries on quality standards and the corresponding price levels. Thus the cartels could be destabilised, and prices and the incomes of the farmers increased.

The fact that some co-operatives are offering, or are planning to offer, credit schemes to their members could constitute a potential threat to intermediaries that are also moneylenders. Possibly, they would wish to guard their position by offering more acceptable prices for the coffee they purchase, in order not to lose more clients.

Hence, the co-operatives have several possibilities for influencing the general price level, both because they represent a threat and an alternative, and because they are increasing the level of information and the bargaining power of non-members.

## 5.8 Co-operative efficiency

In chapter 3 it was shown that co-operatives that are less efficient than their private competitors will not have the same ability to increase the general price level, unless they are subsidised externally. In chapter 4 we looked at different theories and empirical studies explaining why co-operatives may be less efficient and productive than IOFs, especially in Third World countries. We will now look at the different problems faced by the co-operatives in Chiapas, in order to make a judgement on how influential Fair Trade and the organic markets are on their survival and their ability to improve the market situation.

As mentioned earlier, there are many practical problems in coffee trade that constitute barriers to entry. The difficulties include finding customers, becoming familiar with procedures for exporting, financing transport, processing and paying members, and finally, knowing how to administer the whole process. But apart from these practical problems, which are shared with IOFs, co-operatives are faced with other problems related to their particular structure, such as the costs of control, the democracy-efficiency dilemma, and a lack of investment.

### **Costs of control**

In democratic organisations, it is the members' responsibility to monitor the management to make sure they do a good job. According to people working for the coffee register in FLO, a lack of participation and control is generally a problem in the co-operatives. The members usually have little education, and co-operatives deal with complex issues. The co-operatives visited in Chiapas are all large, with more than 600 members, and several measures are taken in order to ensure transparency and democracy in the organisations.

The co-operatives in Chiapas are all divided into different communities. Each of these communities has regular meetings, usually once a month. These monthly meetings are compulsory for members of the co-operatives, and absence must be justified with a written note. Members who on several occasions do not show up without valid justification will be punished with exclusion. The strictness is a way of ensuring the active participation of the members. At the meetings, all the recent information from the administration is read out and discussed, and every year there are elections of delegates to the general assembly. However, ordinary members have few opportunities to judge whether the information they receive from the administration is correct, and mismanagement may also be difficult to discover for the delegates.

Another problem seemed to be that although presence at the local meetings was an obligation, not all of the members were very concerned about what was going on in the co-operative. As one staff member said: *'The members are concerned with the price they get, the rest they don't care about. As long as they get well paid, they're happy.'* There is no doubt that the main concern of very poor people such as some of these coffee farmers is their income level. None of the co-operatives admitted that there had been mismanagement due to lack of participation, but it was claimed that Union de la Selva had made some mistakes concerning large investments in cafés in Mexico City and Barcelona. The lack of democracy and member control was blamed for this, and although I was unable to judge the correctness of that claim, it indicates that the members' inability to understand the procedures in the co-operative can be a problem.

### **Democracy versus efficiency**

According to several co-operative staff members, running a profit maximising enterprise and being a democratic organisation can sometimes conflict. Important decisions have to be made by the majority of the elected committee, and it takes much longer than if an appointed

manager alone can decide. Being transparent and providing information is also time-consuming, as reports need to be written and distributed to all of the members.

Democracy also implies other dilemmas. In these organisations the members are the decision makers, and if they are to make decisions that will prove most beneficial for the organisation, they need to have a certain level of knowledge. If they do not, they may easily leave the decision processes to staff members, which means that democracy will not work properly and that there is an increased probability of mismanagement. Alternatively, if members make decisions without having the knowledge base, there is a danger that they will not be able to make the right decisions, which also implies a loss of efficiency.

### ***The horizon problem***

When asked what should be done with a given amount of money, the members would always answer 'let it be distributed to us', no matter how small the amount. Or at least such was the opinion of some co-operative staff members. The many investments made in some co-operatives, in particular ISMAM and Union de la Selva, prove that this is not always true, and that not all of the co-operatives' surplus is distributed to members.

Apparently, the least investment is made in years when the international coffee price is very high or very low. When it is high, the difference between the co-operative price and the intermediaries' price is small, and the co-operative can therefore not retain a lot of surplus for investment if they want it to be beneficial to be a co-operative member in terms of price offer. Conversely, when international coffee prices are low, the co-operative price, although higher than the coyotes' price, will also go down because the organic coffee importers do not operate with a guaranteed minimum price, only a premium. Hence the income of members is reduced, and they are therefore less interested in making investments that would only pay off in the long run. It is perhaps understandable that very poor people are more interested in meeting their immediate basic needs than in investing for the future, especially when coffee prices are extremely low and their situation is insecure.

### ***Other problems***

Co-operatives face more constraints than IOFs because, as mentioned earlier, their financial capacity is much lower than that of IOFs, in particular those which are integrated internationally. These financial constraints may oblige the co-operatives to take out large, expensive loans that increase their expenses considerably, and reduce what is available for investment, training, research or other efficiency improving activities. Alternatively, they may offer their members a delayed payment scheme, which increases membership costs and potentially reduces their market share.

Co-operatives also have to finance a much larger number of activities than IOFs, such as education programmes, certification procedures, credit schemes and lobbying activities. Some of these are expenditures that in the short run will not increase the income of the co-operative, and may even lead to direct losses. Having all these activities also complicates the administrative processes considerably, which may already be difficult to handle for people who generally are not educated for this type of work.

Generally, problems with costs of control, democracy, finance and numerous activities are more easily solved in organisations that are smaller in size. The capacity constraint of a co-operative is therefore likely to be reached before that of an IOF. This means that co-operatives are less able to benefit from economies of scale than IOFs that can grow and expand for much longer.

## 5.9 The influence of the Fair Trade Labelling Organisation (FLO)

From the previous sections we can conclude that the co-operatives in Chiapas have certain membership costs and to a certain degree they may be less efficient than IOFs. Despite these disadvantages they do seem to have a pro-competitive effect. In this section we will assess the importance of FLO in this situation, not only as the provider of the Fair Trade premium, but also its other mechanisms, such as the imposition of conditions.

### 5.9.1 *The guaranteed minimum price*

The models in chapter 3 predicted that co-operatives that are less efficient or less attractive would not influence the general price level unless they were subsidised externally. A subsidy per unit sold allows the co-operative to purchase more, and at a higher price, which compensates for high membership costs and specific disadvantages, and thus a competitive market situation may be restored. The guaranteed minimum price, the payment the co-operatives get from customers (international traders and roasting companies) supplying the Fair Trade market, could be said to function as a subsidy per unit sold. Only if they manage to sell the coffee do co-operatives receive the premium. The premium can be seen as a direct contributor to an enhancement of competition in the area.

But the premium is also important income that helps co-operatives meet their expenses. Co-operatives have a lot more expenses than IOFs because of the disadvantages mentioned above, and they also provide services that have no direct economic benefits. Covering these costs without receiving a Fair Trade and an organic premium would be difficult, and it would probably not be possible to offer members a higher price than the private intermediaries offer.

The premium is also important for the level of investment of the co-operatives. Chiapas is a region with high levels of poverty, and farmers are generally risk averse and prefer meeting their immediate needs to making long term investments. Despite this, some co-operatives, in particular ISMAM, have made many investments, the most important being a large roasting machine.

### 5.9.2 *Direct market access and prepayment*

The FLO co-operatives' direct access to the international market is, in the opinion of staff members of FLO, just as important as the Fair Trade premium. Direct access means that many links between producers and consumers are cut. The co-operative will sell directly to (usually small sized) roasting companies based in Europe or the US, instead of going through several intermediaries, both national and foreign. Fair Trade coffee gives a much larger percentage of the final consumption price back to the producer than is the case with conventional coffee. We have already seen the importance of extra income for the price offered, for stability, control and investment in the co-operative, and hence for the survival of the co-operative.

Direct access also means that contact between co-operatives and importers is facilitated. Lack of access to the international market is one of the most important barriers to entry in the coffee exporting business, and being registered with FLO helps co-operatives get in touch with potential customers who want to purchase Fair Trade coffee. Customers know that the co-operatives in the register have been accepted by FLO, and can therefore be considered to be trustworthy organisations to deal with. To be registered, therefore, in effect

ensures a good reputation.<sup>29</sup> It is also an advantage to have secure contracts with several clients when seeking loans from local banks, as was pointed out by the treasurer of ISMAM.

Fair Trade licensees are obliged to pay 60% of the total payment in advance, so that the co-operative does not have to make its members wait too long for payment. It thereby reduces the membership cost of delayed payment, with all its negative implications. The co-operatives appreciated the prepayment and said it was of great help to them. But despite this being compulsory as part of the Fair Trade regulations, not all of the customers complied with this rule.

### *5.9.3 The FLO conditions and the monitor*

Before being registered with FLO, co-operatives have to fulfil a certain number of basic conditions. These are listed in appendix 1 under three different sections: social development, economic development and environmental development. The FLO monitor makes a visit to the co-operatives every year to check that the conditions are upheld and that progress is being made.

In this section, we will first look at some of the FLO conditions and their potential impact, before we see how this corresponds to the actual situation in Chiapas.

#### **The conditions**

FLO requires that only small producers should benefit from the Fair Trade system. The Fair Trade premium should only reach the poorest among the coffee farmers, and not the rich owners of large plantations. In Chiapas, co-operative members must not own more than 10 hectares of land. Such a condition could conflict with that of economic efficiency, especially if the co-operatives need more members in order to benefit from economies of scale in exporting. It might also potentially become a hindrance to farmers who wish to expand their production.

Democracy is one of the most important conditions. FLO requires the organisations to hold general assemblies, be transparent and enhance member commitment. This way they want to ensure that social development will take place. This corresponds to the findings in chapter 4, which concluded that if the co-operatives are not democratically run, they will not create solutions in favour of the member body, and social development and other co-operative advantages can only be achieved if the members participate actively in the co-operative processes. Transparency is also the best way of avoiding the danger of corruption and mismanagement among staff members.

The conditions cited under economic development are concerned with the use of the Fair Trade premium, the export abilities and the economic strengthening of the organisation. The decision on how to use the premium is a democratic decision to be made by the General Assembly, but it is also stated that it should be used 'in line with the requirements outlined in these Standards' (FLO 2002). The premium is supposed to contribute to social and economic development, and FLO requires that the organisations increase efficiency in their exporting operations. This condition is in line with the conclusion of the World Bank report on co-operatives (Hussi et al 1993), which states that only co-operatives with 'business potential and competitiveness' are likely to have success. If there is no economic base for a co-operative's existence, it should not be supported. The economic efficiency criterion could conflict with both the democracy condition and that of including only small-scale farmers, and create an 'efficiency versus equity' dilemma.

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<sup>29</sup> This is proved by the fact that 'Union de la Selva' said that most of their former customers left when they lost their registration, and that those who stayed kept asking when they would re-enter the registration list.

## The co-operatives and the FLO conditions

At first sight, it seems as if co-operatives are following the FLO conditions strictly, and that they therefore have an important influence. The rules and management procedures co-operatives apply in order to secure democracy and transparency, the educational programmes, the economic success of their businesses and the organic production methods all meet the FLO conditions.

I was only able to detect non-compliance with the conditions in a few areas. For instance, I did speak to a co-operative member who said he owned 15 hectares of land, 50% more than he should according to the conditions. And the fact that ISMAM only allowed members of a church to enter the co-operative could also be interpreted as non-compliance with the no discrimination condition, since atheists were excluded from membership.<sup>30</sup> With regard to the economic conditions, ISMAM had recently been advised by the FLO monitor to build up its working capital. It had not followed this advice, since the General Assembly had voted against it.

However, although the conditions were followed rather strictly, the co-operatives did not seem to be motivated by FLO and the threat of expulsion to do this. They regarded them as their own rules, which they gained immediate value from. Social, economic and environmental development was their own goal, not that of FLO or the consumers of Fair Trade coffee. The staff members saw themselves as promoters of both social and economic development, and realised that they had to take both aspects into their policy if they wanted to achieve their goals. As one of them said: *'Economic development does not guarantee human development, and human development does not guarantee economic development.'*<sup>31</sup>

To many members, the Fair Trade system seemed foreign and difficult to understand. When asked what the requirements for selling Fair Trade coffee were, very few of those interviewed mentioned social aspects such as democracy. They usually thought the requirements were technical, such as to provide quality, and not to burn the vegetation or use chemical pesticides and fertilisers.

The staff members had different perceptions of the visits from the FLO monitor. Some seemed to have a negative attitude towards them, and referred to stories of mistakes made by the monitors. Others looked on them as insignificant, and said there was little they could learn and understand from their brief visits, and that they were unable to come up with advice that the co-operative staff themselves had not thought of. None of those interviewed seemed to see the monitor as a person threatening to throw them out of FLO if they did not follow his or her advice.

Some of those interviewed had a very positive attitude to the FLO monitor, among them most of the staff at KAFFE, and one of the founders of ISMAM. *'They see through everything'* he said, *'the conditions, the management, the social development, the alternative projects.'* He also said that their visits to members made the organisation more transparent, and secured the co-operative's principles. He valued the capacity building that took place through FLO, and compared it to ISMAM's own courses for new members. Although a decreasing percentage of ISMAM's exports was going to the Fair Trade market, he attributed a great deal of importance to the Fair Trade system and FLO. In his view, *'Fair Trade makes everything work, if this doesn't work, nothing will work.'*<sup>32</sup>

The reason why this person emphasised the importance of FLOs more than the others could be that he was among the few people interviewed who had been working with the co-

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<sup>30</sup> Some would also claim that ISMAM discriminated against non-Catholics, but although a large majority of the members belonged to the Catholic Church, protestants had a constitutional right to enter.

<sup>31</sup> 'El desarrollo economico no te garantiza el desarrollo humano, el desarrollo humano no te garantiza el desarrollo economico.'

<sup>32</sup> 'El comercio justo hace que todo camina. Si eso no camina, no caminará nada.'

operative since its beginning. It is probably at the beginning of operations that FLO has its most important role, when the organisations are still inexperienced in marketing operations, and in how to run a co-operative that is both economically efficient and a provider of social development. ISMAM has been selling Fair Trade coffee for ten years, and although KAFFE is a rather new co-operative, the staff all had considerable experience and a network to bring to the organisation. Their need for FLO was therefore much less than is probably the case with a co-operative just starting to sell on the international market.

The lack of recognition of the importance of the FLO conditions and the monitor could be interpreted as a sign that FLO has been successful to the extent that they have made themselves superfluous. But one should not overlook the fact that these co-operatives have been influenced and inspired by other forces than FLO with the same aims and motivations. ISMAM was initiated by a Catholic organisation, and had, for instance, received technical advice from Guatemaltecan refugees. Other organisations also seemed to have been in contact with several local and international NGOs, and FLO was therefore just one among many.

#### *5.9.4 The risks of financial support*

In chapter 4, we saw that financial and managerial help from governments and NGOs has a tendency to create new problems that reduce the positive impact of co-operatives on social development. Generally, the problem is that external interference tends to reduce member participation, and increase the co-operative's dependency on the external provider of resources. Relating this to the Fair Trade system, it is evident that, although the premium is of great help to co-operatives, it can also become problematic. If the co-operative's management does not have any difficulties in meeting financial costs, and at the same time offers members a good price, they might become less hard working and choose solutions that do not generate the most income. If this tendency is topped by an export manager in full control, an elected board without much knowledge of these matters, and members who are happy and indifferent as long as they receive a good price, this could become a serious problem. Fair Trade could, in that case, be blamed for being a sleeping pillow for the co-operative, causing inefficiencies to persist and problems to remain unsolved. In other words, the Fair Trade premium could be causing moral hazard because of the 'insurance' provided by the external finance. There were no signs of this being a problem in any of the co-operatives that I visited, but I was informed that 'Union de la Selva' had showed such a tendency.

However, there are some substantial differences between the two methods of subsidisation. The Fair Trade premium is more market related than a subsidy from an external institution, such as a government or NGO. One cannot negotiate so easily with the market: if things are going wrong because the co-operative is economically inefficient, there is no room for increasing the finance provided by the subsidiser to save the firm. Or, if the co-operative is not living up to expectations as a promoter of social development, those who want them expelled from the system are not FLO staff, but the consumers of Fair Trade coffee who want to get what they pay for. Fair Trade is a system based on consumers who purchase a certain product that is supposed to satisfy a certain need, to help poor producers in the South. If the product does not satisfy this need, and if the consumers find out that it does not, they will stop purchasing the product, and the system will break down. Therefore, no co-operative can feel that its position on the registration list is safe.

The fact that no, or very few, Mexican co-operatives could export on their own without extra income from alternative markets (organic and Fair Trade) shows that they are all dependent on these systems. But although some co-operatives might be financially dependent on the Fair Trade premium for their continued existence, none seemed to perceive it that way. Although many of them realised that, without the premium, their difficulties

would have been much greater, most did not see the income generated from Fair Trade as essential. This could be because the share of their exports sold to the Fair Trade market was not always very large, and in the case of ISMAM it had been decreasing with the years. All of the co-operatives were constantly struggling to find ways to increase their income, through new production methods, alternative projects, new types of crop or government lobbying. In no way did they seem to think they could lean back and rely on Fair Trade to solve their problems. This indicates that the Fair Trade subsidy had not negatively affected their incentive to be as efficient as possible. It should also be noted that dependence on FLO is not complete. The co-operative that was excluded, Union de la Selva, still managed to keep going after it had lost its registration, although with much more difficulty than before.

## **5.10 Final remarks on the case study**

In the area investigated for the case study, it seems to be the case that the coffee exporting co-operatives to a very large extent rely on extra income from both Fair Trade and the organic market. Without these alternative outlets, it would have been difficult for them to export, and to have a pro-competitive effect on the market situation. The strongest proof of this is the fact that there do not seem to be any co-operatives in the region exporting only conventional coffee to ordinary purchasers. However, this is a conclusion that should not be generalised to all other coffee producing areas in the world. In other places (both in Africa and Latin America) there are co-operatives exporting coffee without support from alternative trading systems. Possibly this is more difficult in Mexico because of high production costs, since the peso is relatively strong compared to other currencies, and the mark-up for coffee exporting companies is smaller here than in many low-cost countries.

What the case study shows is that the Fair Trade subsidy is important for several reasons. As predicted in the theoretical section, it increases the price offered by the co-operative, so that it becomes a threat to private purchasers behaving collusively. But it also makes it possible for co-operatives to finance their non-economic activities, such as education programmes, credit schemes and political activities. These services are not only important for social development and for improving the welfare of farmers, but can also be seen as part of the reason why the cartels are destabilised, because they increase the level of information among farmers. This is an aspect that does not emerge from the theoretical model, but may be as important as the ‘competitive yardstick effect’ described there.

## 6. Conclusion

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Poverty among small-scale farmers, including coffee producers, in rural areas in the South is widespread. Low levels of income, infrastructure and information are problems that the rural poor are faced with. For coffee producers the situation is particularly difficult, since price levels fluctuate greatly, due to the characteristics of the international coffee market. Coffee prices show a general downward trend, and for the last couple of years there has been a coffee over-production crisis with exceptionally low price levels. In addition to that, small-scale coffee farmers' difficulties seem to have been further increased by territorial, multinational exporting companies and local intermediaries using their power as moneylenders and coffee purchasers to decrease the producers' price level and thereby their incomes.

Marketing coffee co-operatives may improve the life situation of the rural poor in several ways. In theory, they can distribute profits otherwise retained by middlemen to the producers themselves. This means that their price offer will be better than that of their private competitors, and hence they may enhance competition among local coffee purchasers. However, a higher price offer might increase the co-operative's output level beyond that of income maximisation, which can be prevented by membership restriction. Restricting membership will in turn reduce the ability of the co-operative to increase price levels offered to non-members. However, co-operatives may remain partially closed to new members in order to continue to retain profits by using deliberate membership costs such as fees or waiting lists. Thus they can influence the general price level by representing an alternative to non-members and hence a threat to private processors. They may also act as 'barometers of exploitation', indicating to non-members the extent to which they are exploited by local purchasers, which could lead them to take actions such as creating their own co-operative. In order to avoid such outcomes, private purchasers will offer better prices.

Agricultural co-operatives in poor countries are important for other reasons than that of enhancing competition. They can offer useful services, and allow farmers to benefit from economies of scale and innovation. They are also seen as important grass-roots organisations because they can lead to the formation of social capital. With actively participating members who join forces to improve their incomes, co-operatives may empower and give a voice to poor and marginalised people and thereby enhance democracy and social development.

Nevertheless, agricultural co-operatives in the South have often failed to achieve these goals. This has been explained by their democratic structure, which may prevent efficient control of management and a profit distribution system that leads to a shorter time horizon for investment. Democratic organisations require the active participation of members, and free riding can become a problem. Co-operatives that try to meet several of the needs of their members, such as the need for credit schemes, education or other services, will have more complex administration procedures and generally higher expenditure levels than their private competitors. In addition, it is difficult for co-operatives to get enough working capital from their members, who are generally poor, and getting finance from banks is more expensive than being financed by investors. This lack of working capital means that they cannot pay members at the time they deliver their produce, and this reduces the attractiveness of co-operative membership. This is an important cost of co-operative membership, which may come in addition to other costs such as membership fees and meeting obligations, and which are not always offset by co-operative benefits such as service offers or closer location. Co-operatives that are less efficient and less attractive than their private competitors are less likely to have a pro-competitive effect on the market. Because of a difficult economic situation, they may also have less effect on social development than is predicted in theory.

External interference has often been initiated to solve these problems. Because of generally low levels of education in rural areas in the South, expertise from governments and NGOs has been used, together with financial support. In theory, a subsidy per unit sold to a co-operative may increase the price level it offers members, and thereby it may restore competition in the market. The problem with this interference is that it tends to create a situation of dependency, and it may also reduce members' feelings of ownership in the co-operative, which again has an adverse effect on their level of participation. If member participation is low, the co-operative has little chance of achieving its goals.

Fair Trade is a new system, which started up because consumers in the North wished to support producers in the South by paying them what they thought they deserved for their produce, rather than the market price. Fair Trade premiums paid to coffee farmers are channelled through coffee co-operatives. In order to assess the impact of Fair Trade, a case study was conducted in Chiapas, Mexico, where there are both coffee exporting co-operatives and private companies. The market situation here shows clear signs of being one of imperfect competition among private coffee purchasers. The coffee co-operatives seem to have a pro-competitive effect, as price levels offered by private purchasers are higher in areas with co-operative presence than in areas where there are no co-operatives. Because of their link to Fair Trade and the organic market, the coffee co-operatives are able to offer prices that are significantly higher than those of their competitors. But despite their higher prices offered, the co-operatives can remain open to new members because of membership costs such as delayed payment or compulsory organic production methods, which prevent too many entrants. Because they represent an alternative to non-members, the co-operatives are a threat to the private purchasers, who increase their prices in order not to lose their market share. In addition, the co-operatives raise the farmers' level of information on prices and quality, and thus the power of the local intermediaries is further reduced, and competition enhanced.

The experience from Chiapas is that coffee co-operatives are economically disadvantaged in competition with private exporting companies, especially the large multinational ones that do not have problems of liquidity. But the co-operatives investigated still manage to succeed: they are successfully functioning economic organisations that also run social programmes such as education schemes. It is unlikely that the Mexican co-operatives would have been equally successful without the financial support of the Fair Trade system or the organic market. Without it, they would not have been able to sustain higher price levels and have a pro-competitive effect on the market, and they could not have made their many investments. Other advantages provided by the Fair Trade system, such as direct access to the international market and the compulsory prepayment of Fair Trade purchasers, are also seen as important. However, the case study provides little evidence that the Fair Trade conditions or the yearly visit from the Fair Trade monitor is of great significance to co-operatives that already have many years of experience.

In comparison, the Fair Trade system seems to be more successful in supporting co-operative initiatives than governments or NGOs. There are two possible explanations for this: one is the realistic sanctioning system, and the other is the uncertainty about the size of support from the Fair Trade premium. The sanctioning system is more realistic than that of NGOs or governments, because when co-operatives do not fulfil the requirement for continued support, they are excluded from the system so that it can remain credible to the consumers who finance it. It is possible to bargain with and persuade NGO or government representatives, but not a faceless mass of Fair Trade consumers. In addition, the fact that Fair Trade support depends on how much is sold to Fair Trade customers makes it vary from year to year, which means that co-operatives cannot become too dependent on it. Their incentives to perform well, and also to get several legs to stand on, should therefore be strong.

Nevertheless, the Fair Trade subsidy does not guarantee that the co-operative that receives it will be successful. Inefficiency, lack of member participation, dependency and moral hazard can be a problem also in co-operatives registered by FLO, and the success rate is related to factors other than Fair Trade, among which the right management is probably the most important.

To sum up, the hypotheses derived from economic theory together with the case study indicate that coffee co-operatives may have a positive effect on local markets. They may increase the incomes of both members and non members by restoring competition among private intermediaries. However, involuntary membership costs and specific co-operative difficulties will reduce the ability of the co-operative to represent a challenge to its private competitors. The support these co-operatives receive from Fair Trade and from the sales of organic coffee is therefore fundamentally important, both for the economic and social success of the co-operative, and for its pro-competitive effect.

The aim of Fair Trade is to enhance development and reduce poverty in countries in the South by helping poor coffee farmers. But FLO never enters a new area and takes the initiative to start a new co-operative for particularly poor people, nor do they intervene actively to help a co-operative that is weak and unable to satisfy their requirements. They only accept co-operatives that are already strong and functioning successfully, that ideally are already managing processing and export procedures, and where democracy is strong and member participation is high. The advantage of this is that co-operatives selling Fair Trade labelled products do not become entirely dependent on Fair Trade, neither their expertise nor on their financial support. But reaching such a high level of co-operative success may be difficult for poor, uninformed, small-scale coffee farmers. One possibility lies in the careful intervention of a third party, such as NGOs, to help farmers in the establishment of co-operatives that will, if they are accepted, start selling Fair Trade coffee. Many of the co-operatives that are now linked to Fair Trade were initially formed at the initiative of governments or NGOs (such as ISMAM), and these organisations today show a high level of independence and member participation. The potential in projects like this, where NGOs and alternative trading systems collaborate in the formation of agricultural co-operatives in poor, rural areas, should be explored and evaluated, as they may prove to be an efficient way of promoting development in Third World countries.

Concerning the issue of imperfect competition, it is a common perception among scholars and NGOs working with rural markets in the South that producers often suffer because of collusive behaviour among purchasers. But it should be established how widespread this problem really is, in which sectors cartels and monopsony are most common, and how big the losses of the farmers are. One should also try to look for the reasons for the imperfections, and seek to find solutions and remedies other than Fair Trade co-operatives. Examples of measures that perhaps would counteract monopsony power among agricultural purchasers are improved infrastructure and increased information and education among farmers. Possibly, the establishment of private firms would also have a destabilising effect on cartels, particularly if it results in price competition.

However, although imperfect competition in local agricultural markets is a problem, the main difficulty is falling international Third World commodity prices. As we have seen, at the moment this is particularly the case for coffee producers. This is a large scale problem, affecting millions of people, and for many countries it is one of the main reasons why they remain poor. To think that Fair Trade alone can solve this problem is to be mistaken. The questions of how to avoid over-production and poor countries' reliance on a few export commodities need to be addressed. Solutions require participation from both the North and the South, and could, for instance, include changes in the international trading system, with a revision of tariffs, subsidies and quotas.

Lastly, I also believe that more research and involvement is needed concerning co-operatives in developing countries. Despite the failures of many co-operatives, one should not forget that there are also many success stories, both in the North and in the South. Co-operatives still occupy an important place, with, for instance, 60% of Italian wines being co-operatively produced, and a major share of India's milk marketed through dairy co-operatives (Cracknell 1996). In this report we have also seen that in theory, co-operatives have the potential to bring about positive changes for the rural poor. Instead of leaving the co-operatives behind, there should be more research and investigation of the failures and successes of co-operatives in the South, in order to find out if they can still play an important part in poverty alleviation and economic development, with or without Fair Trade. Perhaps more significance can be put into the quote from a United Nations session in 2001: '...Governments have acknowledged the significance of co-operatives as associations and enterprises through which citizens can effectively improve their lives while contributing to the economic, social, cultural and political advancement of their community and nations' (UN 2001).

# Appendix: Generic Fairtrade Standards for Small Farmer's Organisations (FLO 2002)

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## 1 Social Development

### 1.1 Fairtrade adds Development Potential

*Fairtrade should make a difference in development for certified producers.*

#### 1.1.1 Minimum Requirement

1.1.1.1 The producer organisation can demonstrate that Fairtrade revenues will promote social and economical development of small farmers.

#### 1.1.2 Progress Requirement

1.1.2.1 A monitored plan should be developed under which the benefits of Fairtrade (including the Premium) are shared based on a democratic decision taken by the beneficiaries.

### 1.2 Members are Small Producers

*By small producers are understood those that are not structurally dependent on permanent hired labour, managing their farm mainly with their own and their family's labour-force.*

#### 1.2.1 Minimum Requirement

1.2.1.1 The majority of the members of the organisation are small producers.

1.2.1.2 Of every Fairtrade-certified product sold by the organisation, more than 50% of the volume must be produced by small producers.

#### 1.2.2 Progress Requirement

1.2.2.1 Where a minority of small producers from within a small producer organisation is producing a particular Fairtrade product, special attention needs to be given to ensure that they will always receive a cost-covering price for their product from the small producers' organisation. The small producer organisation will establish an adequate system for this respectively.

### 1.3 Democracy, Participation and Transparency

*The organisation must be an instrument for the social and economical development of the members, and in particular the benefits of Fairtrade must come to the members. The organisation must therefore have a democratic structure and transparent administration, which enables effective control by the members and its Board over the management, including the decisions about how the benefits are shared. Furthermore, there must be no discrimination regarding membership and participation.*

#### 1.3.1 Minimum requirements

1.3.1.1 An organisational structure is in place which enables control by the members. There is a General Assembly with voting rights for all members as the supreme decision taking body and an elected Board. The staff answers through the Board to the General Assembly.

- 1.3.1.2 The organisation holds a General Assembly at least once a year.
- 1.3.1.3 The annual report and accounts are presented to and approved by the General Assembly.
- 1.3.1.4 Administration is in place.

### **1.3.2 Progress requirements**

- 1.3.2.1 The organisation works towards transparent planning of the business. Organisations are encouraged to make annual business plans, cash flow predictions and longer term strategic plans. Such plans will be approved by the General Assembly.
- 1.3.2.2 The participation of members in the organisation's administration and internal control is promoted through training and education - and improves as a result.
- 1.3.2.3 The organisation establishes or improves internal mechanisms of members' control over the administration, such as a control committee with rights to review the administration, external audit, etc.
- 1.3.2.4 Increasingly, the organisation's policies are discussed in member meetings. Management actively encourages members' participation in meetings.
- 1.3.2.5 There is improvement of the flow of information from board to members about the business and the organisation's policies.
- 1.3.2.6 Measures will be taken to improve the members' commitment to the organization.

## **1.4 Non-Discrimination**

*FLO follows ILO Convention 111 on ending discrimination of workers. The Convention rejects "any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation" (art. 1). As far as applicable, FLO extends these principles to members of organisations.*

### **1.4.1 Minimum requirements**

- 1.4.1.1 If the organisation restricts new membership, the restriction may not contribute to discrimination against particular social groups.

### **1.4.2 Progress requirements**

- 1.4.2.1 Programs related to disadvantaged/minority groups within the organisation are in place to improve the position of those groups in the organisation, particularly with respect to recruitment, staff and committee membership.

## **2 Economic Development**

### **2.1 Fairtrade Premium**

*The organisation has the commitment and capacity to administer the Fairtrade Premium in a way which is transparent for beneficiaries and FLO. Decisions on the use of the Premium are taken democratically by the members.*

#### **2.1.1 Minimum requirements**

- 2.1.1.1 The organisation administers and manages the Premium transparently and uses it in line with the requirements outlined in these Standards.

2.1.1.2 The use of the Fairtrade Premium is decided by the General Assembly and properly documented.

## **2.1.2 Progress requirements**

2.1.2.1 As soon as Premium is available, there is a yearly Premium plan and budget; preferably these are part of a general work plan and budget of the organisation.

## **2.2 Export Ability**

*The producers must have access to the logistical, administrative and technical means to bring a quality product to the market.*

### **2.2.1 Minimum requirements**

2.2.1.1 Logistics and communication equipment are in place.

2.2.1.2 The producer organisation proves that it meets current export quality standards, preferably through previously exported products which were accepted by importers.

2.2.1.3 Demand for the producers' Fairtrade product exists.

2.2.1.4 The organisation has experience in the commercialisation of a product as an organisation.

### **2.2.2 Progress requirements**

2.2.2.1 The producer organisation increases efficiency in their exporting operations as well as in other operations and this way maximises the return to the members.

## **2.3 Economic Strengthening of the Organisation**

### **2.3.1 Progress requirements**

2.3.1.1 Members will gradually take on more responsibility for the whole export process.

2.3.1.2 The organisation will work towards the strengthening of its business related operations. This could for example be through the building up of working capital, implementation of quality control, training/education and risk management systems, etc.

## **3 Environmental Development**

### **3.1 Environment protection**

*Producers are expected to protect the natural environment and to make environment protection a part of farm management.*

*Producers will implement a system of Integrated Crop Management (ICM), with the aim of establishing a balance between environment protection and business results, through the permanent monitoring of economic and environmental parameters, on the basis of which an integrated cultivation and protection plan is devised and permanently adapted. FLO encourages producers to work towards organic certification.*

*ICM minimises the use of fertilisers and pesticides, and partially and gradually replaces them with organic fertilisers and biological disease control.*

#### **3.1.1 Minimum requirements**

3.1.1.1 The producers live up to national and international legislation regarding the use of pesticides, handling pesticides (storing, filling, cleaning, administration, etc.), the

protection of natural waters, virgin forest and other ecosystems of high ecological value, erosion and waste management.

- 3.1.1.2 Pesticides in WHO class 1 a+b, pesticides in the Pesticide Action Network's "dirty dozen" list and pesticides in FAO/UNEP's Prior Informed Consent Procedure list (respecting updates, see appendix) cannot be used.

### **3.1.2 Progress requirements**

- 3.1.2.1 The producer organisation will encourage its members to implement **a system of Integrated Crop Management.**

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# Summary

Coffee is one of the most important Third World export commodities, and 70% of the producers are small-scale farmers. Coffee producers are often poor and marginalised, and their situation is aggravated by fluctuating market prices and collusive behaviour among intermediary coffee purchasers.

Coffee co-operatives may potentially increase the incomes of these farmers by distributing a larger share of the final price to the co-operative members. Co-operatives can also have a pro-competitive effect on imperfect market situations, and thereby increase income levels also for non members. Moreover, they have the potential to educate and empower marginalised farmers.

However, lack of finance and problems with free riding, costs of control and a too short time horizon are problems faced by co-operatives. Because of that, benevolent governments or NGOs have tried to support co-operatives with finance and expertise, but often with an unsuccessful outcome.

The Fair Trade system distributes money to small-scale coffee producers via carefully selected co-operatives. The study of Fair Trade co-operatives in Chiapas shows that they are successfully functioning organisations, and that they do seem to have a pro-competitive effect on an imperfect market situation. But the co-operatives also have many disadvantages compared to their private competitors. This means that they could probably not have reached their level of success without the premium received from the alternative markets (Fair Trade and organic). Thus, the support from the Fair Trade system seems to strengthen agricultural co-operatives.

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