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Fair Trade, Agrarian Cooperatives, and Rural Livelihoods in Peru

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FAIR TRADE COFFEE, AGRARIAN COOPERATIVES, AND RURAL
LIVELIHOODS IN PERU

A Dissertation Presented

by

NOAH HILLEL ENELOW

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2012

Department of Economics

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DEDICATION

To the peasant farmers and artisans of the world, whose everyday labor is greatly undervalued.

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ABSTRACT

FAIR TRADE COFFEE, AGRARIAN COOPERATIVES AND RURAL LIVELIHOODS IN PERU

MAY 2012

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This dissertation analyzes the fair trade (FLO) certification system for agricultural commodities in the context of the global coffee crisis and its deleterious effects on rural livelihoods, focusing on the northern Peruvian Amazon. I begin the dissertation in my introduction by outlining my theoretical framework, which analyzes markets as bundles of institutions. The dissertation proceeds to analyze the key institutions of the fair trade coffee chain: certifications, commodity trade, cooperatives, and smallholder farming communities. In my second chapter, I explain the history of the FLO certification system, examine the dynamics of certifications in general, and point out the incentive problems therein. My third chapter provides a value chain analysis of the global coffee trade, outlining the key differences between conventional and fair trade value chain structures and identifying the key forces that have increased inequality in incomes along the coffee value chain. My fourth chapter examines existing theories and empirical evidence on the efficacy of cooperatives in improving the welfare of their members, and critically review the debate about the role of cooperatives in rural development. My fifth chapter examines

empirically the relationship between cooperatives and their member farms, based on fieldwork I conducted in Peru in 2006-7. My empirical analysis reaches the exciting result that farms are better able to access cooperative benefits when they engage in non-market labor exchanges between households. I conclude the dissertation by arguing that, despite the limitations inherent in the fair trade certification movement, it has successfully expanded economic opportunities for participating growers, and that cooperative relationships among the growers improve access to these benefits.

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CHAPTER 1

INTRODUCTION

1.1. Fair Trade, Neoliberalism, and the Coffee Crisis

Economic globalization is a process marked by contradictory tendencies. As the globalization of capital endangers workers' livelihoods by allowing transnational firms to seek the lowest-cost locations for production, the globalization of communication allows the messages of injustice and the realities of poverty to travel worldwide, provoking reactions and responses against this impoverishment. Informed global citizens are becoming increasingly aware of the inhumane, unfair, and dangerous production and trading conditions faced by millions of workers and farmers around the world. Increased mobility of capital, meanwhile, has perpetuated and even intensified the impoverishment, mistreatment, and marginalization of many millions of workers, small farmers, and artisans.

With consumers' increased social awareness comes an increased willingness to pay a premium to ensure fair and decent treatment of workers. Evidence for this willingness by consumers in industrialized countries is overwhelming. In a 1997 survey for the Social Investment Forum, 84% of Americans said they would pay more for clothes made without the use of sweatshop or child labor (Dicum and Luttinger 2005). In 1999, a survey by Marymount University's Center for Ethical Concerns revealed an almost identical result, with 85% of respondents willing to pay an additional \$1 for a \$20 item if they could be assured it was made under good working conditions. The University of Maryland's Program on International Policy Attitudes found that three-quarters of the respondents to their survey reported feeling a "moral obligation" to help alleviate the

plight of workers faced with inhumane working conditions. In a 2000 survey by the National Bureau of Economic Research (NBER), 65% of all respondents said they would refuse to buy a T-shirt made under poor working conditions under any circumstances (Elliott and Freeman 2000). These results point to consumers' stated intentions to avoid goods and services whose production caused harm to workers. The question remains as to whether these intentions can be realized within the current configuration of global markets.

At the same time that consumers in the wealthy global North are waking up to the poverty of Southern workers and the injustices of international trade, representatives of the Southern countries are increasingly demanding fair trade practices to promote their own development objectives. Many observers of the international economy, from both North and South, conclude that trade, if undertaken fairly, can provide an important piece of the solution to global poverty. Yet global policies to promote fair trade are still a long way off. By way of an example, the film *Black Gold* documents the struggle of trade representatives from East Africa to secure favorable provisions during the WTO's fifth ministerial meeting in Cancún, 2003. The meeting eventually reached a stalemate due to the wealthy countries' refusal to consider lifting their own agricultural subsidies, while attempting to force the poorer countries to continue opening their agricultural markets. During the meeting, a group of NGOs, activists, small farmers, artisans, and alternative traders held a parallel conference a few blocks away, dubbed the Fair and Sustainable Trade Symposium. They proposed an alternative model of trade, in which prices reflect the cost of production and cost of living, guaranteeing small farmers, artisans, and industrial workers stable and decent livelihoods (Jaffee 2006).

These alternative proposals follow the principle of “trade, not aid,” a slogan developed at the United Nations Conference on Trade and Development (UNCTAD). Yet poor countries’ options for securing favorable trading conditions have become increasingly scarce during the neoliberal era. The WTO has adopted as its stated aim the elimination of all barriers to trade, theoretically increasing poor countries’ access to larger markets. However, in practice its purported free-trade policies create a double standard. Free trade ties the hands of developing-country governments to protect vulnerable sectors such as peasant agriculture – corn in Mexico, potatoes in Peru, and food crops the world over. Meanwhile, wealthy countries are allowed to continue subsidizing their own internationally traded products, thereby undercutting their poorer competitors in international markets and even invading the domestic markets of poor countries, driving small farmers off the land. In this way, state-subsidized, genetically enhanced and less-nutritious U.S. corn has out-competed natural, biodiverse and more-nutritious Mexican corn, undercutting the operation of an ancient and highly developed agricultural system (Mann 2005, Boyce 2006, Wise 2007).

Since government solutions to unfair international trade are at least temporarily off the table, international solidarity movements have been forced to look to non-governmental solutions. The rising global justice movement, exemplified by the 1999 Seattle protests, the breakdown of the 2003 Cancún talks, and the ongoing World Social Forum, has recently begun joining forces with the numerous international development NGOs that emerged in the wake of developing-country government downsizing during the decades of structural adjustment. This alliance has opened up spaces for non-governmental institutional innovations and movements designed to work at least

temporarily within the neoliberal system, while mitigating its injustices, circumventing its double standards, and ultimately aiming to replace it with an alternative model. One particularly successful example of this type of innovation is the system of fair trade certification known as the Fairtrade Labelling Organization (FLO), the topic of this dissertation.

Fair trade certification has evolved in response to the recurrent crises and ongoing destabilization of prices for most internationally traded agricultural commodities. These crises are most visible in the case of coffee, the flagship product of fair trade certification and its largest market by value. Until 1989, coffee was regulated by an international agreement between producing and consuming countries, the International Coffee Agreement (ICA), which controlled exports through a quota and buffer-stock system. The demise of this agreement ushered in a new era of low, volatile prices and low producer incomes. Talbot (2004) shows that producing countries' share of coffee incomes has roughly fallen by half since the demise of the agreement. Temporary price spikes in 1994 and 1997, primarily due to frosts in Brazil, the world's biggest coffee-producing country, have only served as temporary relief between protracted periods of crisis. At the same time, the trading and roasting nodes of the global coffee value chain have become increasingly concentrated, leading to a widening inequality in the distribution of benefits (Ponte 2004, Goodman *et al.* 2008).

From the consumer side, fair trade certification appeals to a small but rapidly growing base of ethical consumers, through the signal of a printed label or logo. The use of labels or logos as devices to communicate messages of solidarity with impoverished producers invades the corporate advertising space charted by Naomi Klein in her (1999)

book *No Logo*, harnessing existing branding techniques to promote social objectives. As TransFair USA's CEO Paul Rice argues in John de Graaf's (2006) film *Buyer Be Fair*, consumers in the global North may be a "sleeping giant," which can change the world with its purchasing power when awakened. It is the power of the conscious consumer on which the fate of the fair trade certification system ultimately depends.

From the producer side, fair trade certification works through the active membership of democratically organized small agricultural and craft producers' organizations. It also works through plantations, estates, and other privately owned firms using hired labor. These firms commit to paying a minimum wage and providing safe and decent working conditions. The conditions for hired labor are based upon the Conventions of the International Labor Organization (ILO). Due to the importance of small farms in the cultivation of coffee, I choose to restrict my attention to the small producers' organizations. These organizations usually take the form of cooperatives, in which assets such as processing, quality control and marketing infrastructure are owned collectively by a group of producers. The producers delegate authority over the management of these assets to a management structure, overseen by an elected board of directors. In some cases, such as Peru's Central de Cooperativas Cafetaleras de La Convención y Lares (COCLA) or Ethiopia's Oromia coffee producer groups, the organization is in fact a union of cooperatives, or a second-level cooperative that itself democratically represents a group of cooperatives. Whichever cooperative undertakes the exporting function – whether first- or second-level - must register with the Fairtrade Labelling Organization (FLO), an international umbrella NGO devoted to maintaining

the FLO standards for fair trade and coordinating standards and policies among each country's national fair trade labeling initiative.

Despite participation in the FLO certification network, these producers' organizations' presence in the international market is far from secure. The small size of the fair trade market means that the majority of the output from these organizations must be sold on the conventional market. On the conventional market, the organizations must compete constantly against private export firms. These firms are generally larger than the co-ops, possess greater access to finance, boast wider and deeper purchasing networks, and enjoy long-standing, well-established ties to multinational coffee importing and roasting firms. Private exporters generally deal in the lower-quality segment of the market, but some are differentiated and can market coffee at varying quality levels. These firms can purchase coffee from growers of varying technical skill, at variable prices based on the New York "C" price, or internationally traded price for commodity-grade coffee of the species *coffea arabica*.

Many cooperatives must split their sales between the fair trade market and the conventional market. The dilution of the premiums caused by a small volume of fair trade sales weakens the growers' incentives to market coffee through the cooperative, in turn weakening the organization. Cooperatives that are able to sell most of their coffee on the fair trade market, by contrast, are (nearly) always able to offer a higher price than the intermediaries. However, their small margins and low levels of liquidity entail that they must split this elevated price into two payments, the first when the coffee is delivered, and the second, liquidation payment or *reintegro*, at the end of the harvest season, when all coffee has been sold. This delay makes a large difference in a coffee grower's life.

The higher quality standards demanded by the cooperative require the growing household to commit a larger amount of labor to coffee production – much of which they must hire. Thus, the cooperative member household makes a larger upfront labor investment at the beginning of each season than its non-member counterpart. Yet, since they only receive part of their payment on delivery, their income – net of labor costs – during the harvest period is not necessarily higher than those of non-members. As a result of this and other factors, most members of cooperatives still sell a portion of their product to private intermediaries, in order to cover immediate costs. This practice, while it may be necessary in the short run, weakens cooperatives, slowing the process of building collective productive assets, technical skills, and business relationships that can lead to long-term gains in growers' income and wealth. Can well-targeted interventions attack this problem and allow growers to market a greater amount – even all - of their product through their organizations? Or must cooperatives constantly battle the corrosive forces of the conventional market in order to survive? This dissertation will take up these questions in detail, providing a range of possible answers through a mix of theoretical and empirical research.

1.2. Theoretical Framework: Double Movement, Instituted Market

Two theorists particularly inform my approach to this dissertation: Karl Polanyi and Barbara Harriss-White. I now turn to a brief synopsis of their contributions to the theory of market exchange, in order to inform and set up the chapters to follow.

1.2.1. Karl Polanyi: The Double Movement

Polanyi's (1944) masterwork of economic history *The Great Transformation* traces the rise of the self-regulating market economy through the enclosure movements of 17th-century England, which gave rise to early capitalist accumulation by agrarian entrepreneurs and their allies in the newly profit-oriented landed classes. This movement represented the first major step towards a society based entirely around markets, a significant departure from the relations of reciprocity and redistribution – however inequalitarian – that characterized premodern societies, including English feudalism. The enclosure of the common fields into sheep pastures for commercial wool production was the first step towards market society by creating a market in land, the first of what Polanyi dubs “fictitious commodities”: land, labor, and money. The dispossession of the small peasantry, who had been dependent on the commons for survival, set into motion a series of countervailing reforms, promoted by the Crown. These reforms culminated in the notorious Speenhamland system, an antecedent to the modern redistributive welfare state that, despite its intentions to promote social welfare, created a class of semi-permanent dependents. (Polanyi 1944, 84) When the rising bourgeoisie eventually campaigned to abolish the Speenhamland system, the first modern wage labor market was thereby established.

Polanyi offers a comprehensive reading of modern history based around the tension between the social groups attempting to organize national political and social structures around market forces, and the countervailing interests attempting to restrain the unfettered operation of markets. In Polanyi's theory, markets play both a constructive and a destructive role. While market society ultimately allows for a higher degree of economic growth and prosperity than the premodern feudal systems, the social chaos

caused by unfettered markets - exemplified in his case study of England by the rise of pauperism, vagrancy, and crime – demands both immediate humanitarian response and systematic preventative movements.

Polanyi calls this push and pull of free-market and social-regulatory forces the “double movement.” His theory, formulated at the end of World War II, reflects the preoccupation with government intervention to restrain the chaos caused by the unfettered operation of markets. However, it ignores the possibility of non-governmental mechanisms of social regulation that can either substitute for or complement governmental regulation. Following and bolstering the thesis argued by Conroy (2007) and others, I argue in this dissertation that third-party certifications play precisely this role, and thus call into question the 20th-century fixation on government solutions to social problems. Government still plays an important role in ensuring decent living and working conditions for less powerful actors in society. But in an era where capital is able, via technological innovations and neo-liberal government policy, to cross national borders with unprecedented speed, the era of national governments’ monopolies over social regulations is now over. Civil society arrangements, such as the fair trade (FLO) system and other types of certification, are coming to play at least as important a role as governments in the market-regulating moment of Polanyi’s double movement. The implications for this development, though hopeful, are far from clear.

1.2.2. Barbara Harriss-White: Institutionalized Markets

Barbara Harriss-White’s theory of institutionalized markets allows us to zoom in from Polanyi’s macro-social perspective and examine how the “free” play of market forces actually works on the ground. Building on Polanyi’s theory of the embedded

economy, she argues that markets always operate as bundles of institutions. Economists generally define institutions as the rules – formal and informal – that structure social interaction, including laws, social norms, customs, and rules of thumb. (Bowles 2005) Unlike most institutional economists, however, for Harriss-White institutions *constitute* markets rather than simply act as constraints on their operation. Her work envisions and describes really existing markets and market relations as nested within other social and political institutions such as families, kinship networks, ethnic groups, laws and customs, civic associations, and formal state structures. This insight, grounded in intensive empirical field research, applies not only to the markets found in so-called archaic societies, but those prevailing today in highly technologically developed economies. One has only to consider the impact of the holiday (Christmas) season on U.S. consumption, or the social networking institutions of corporate executives – e.g., elite universities, country clubs – to realize the applicability of her argument. Furthermore, within a single market one may find a diverse set of institutions, which may either compete against each other or carve out relatively stable niches, and evolve over time.

The Peruvian coffee market, in which my primary research subjects are located, exhibits a high degree of institutional and organizational diversity. Cooperatives and growers' associations compete in the same markets as private firms of varying sizes. A group of intermediate market organizations, such as brokers and commercialization services, mediate between cooperatives and associations on the one hand, and export markets on the other. Finally, cooperatives and associations partly or wholly own a few private export firms, and some associations or cooperatives operate under exclusivity agreements with private firms. Cooperatives, associations, and private firms themselves

exhibit diverse institutional structures as well. For instance, the Pangoa cooperative practices direct democracy, with decision-making centralized to the cooperative level; Oro Verde practices a representative form, composing itself of subcommittees who elect delegates to the central assembly. Decision-making occurs at both administrative levels, though the central assembly is primary. Finally, the communities that make up cooperatives are themselves loci of institutional diversity: labor-sharing arrangements between households, known as *choba-choba*, coexist with wage and family labor.

In examining the workings of the coffee market in the Lamas province of northern Peru, I extend Harriss-White's fundamental insight to show that markets operate within ecological and geographical constraints as well. The timing of the harvest season is crucial for the livelihood stability of coffee farmers, and constrains their marketing decisions in fundamental ways. The relationship between the timing of the harvest season and the cooperative's schedule of collection or *acopio* works to the detriment of lower-altitude coffee producers, who often find themselves waiting for weeks after the beginning of harvests before the cooperative begins its operations. This disadvantage reflects the perceived dynamics of demand in coffee-consuming countries, which have revealed a preference for coffee grown at higher altitudes. Also, institutions at the level of the growing community – in particular, whether *choba-choba* is practiced – affect the economic behavior of community members towards the regional-level cooperative. My empirical work shows that the practice of *choba-choba* exerts a positive influence on the grower's ability to participate in cooperative marketing arrangements.

1.3. Plan of the Dissertation

This dissertation will proceed as follows. Chapter 2 provides a selective review of the literature on the fair trade movement and FLO certification system. I first provide an overview of the FLO certification system for agricultural commodities. I then examine this system in the context of newly developed studies of certifications as tools for market governance, critically examine economic theories of how the system works, and review the documented evidence of the system's impact.

Chapter 3 provides a historically grounded commodity chain analysis of the global coffee economy, based on the theory of markets as instituted processes. I show how institutional change in the coffee market has affected the distribution of income and value along the coffee commodity chain. Specifically, the demise of the International Coffee Agreement (ICA) has given rise to a shift in the distribution of income from producing countries to consuming countries. It has also led to lower and more volatile world coffee prices. These changes parallel broader changes in the global economy. As trade barriers have fallen and commodity stabilization agreements have been dismantled, small producers of agricultural primary commodities have been forced to bear the burdens of adjustment to these changes, resulting in a pattern of unstable livelihoods and impoverishment.

Chapter 4 examines the agricultural marketing and service cooperative as an important rural, agrarian institution that exists to provide small farmers with security from the vicissitudes of the international market. I describe briefly the key structural elements of this type of organization and show how these elements fulfill important economic and social roles. I will then examine critically economic theories of agrarian cooperative formation, none of which, I argue, are adequate to explain the formation,

growth, and persistence of agrarian cooperatives around the world. I proceed to review historical case studies of cooperatives, focusing on developing countries in the twentieth century, and extract some basic lessons about the implications of asset inequality, corruption, and the role of the state. Finally, I review the evidence on cooperative formation in the neoliberal era, tying the ongoing discourse about cooperatives to that of fair trade. I conclude by providing a simple model that identifies the key channels through which participation in fair trade arrangements benefits cooperatives.

Chapter 5 draws on eight months of field research with the Oro Verde cooperative in the Peruvian High Amazon, between January and August 2007. I begin by identifying a key problem in cooperative management: the problem of outside sales by members to private intermediaries. I proceed to explain, through econometric analysis, the factors that most strongly impact the growers' level of outside sales. I find that access to non-market forms of labor, including both family household labor and the inter-household mutual aid practice called *choba-choba*, exert significant positive influences on households' decision to market their output through the cooperative: in other words, non-market labor arrangements reduce outside sales.

This dissertation provides a large-scale picture of the historical and institutional context of the fair trade movement and FLO certification system, and addresses some of the major issues involved in implementing fair trade certification processes in coffee-growing communities. The international experiment in creating and maintaining an alternative trading system within the dominant system is still in its early stages, and much remains to be learned. Empirical studies of the impact of the system are still relatively rare and narrowly focused; qualitative case studies cover relatively few organizations.

Theories of certification, commodity chain organization, cooperative formation, and non-market labor usage remain relatively undeveloped. In sum, my dissertation, as a whole, aims to expand the discourse surrounding fair trade by highlighting its key issues and elements. My study of the relationship between labor use and outside sales contributes to the small but growing empirical analyses of the system, tackling a problem that remains important on the ground in many coffee-growing communities. My aim is to shed light on both the virtues and limitations of the movement, and contribute to the ongoing attempt to understand its impacts.

CHAPTER 2

FAIR TRADE: A REVIEW OF THE EVIDENCE

2.1. Chapter Introduction

This chapter provides an overview of the academic and professional published literature on fair trade, along with the current state of the evidence on the impact of fair trade purchasing arrangements on farmer welfare. From the various movement and market initiatives that comprise the fair trade movement, I focus primarily on the certification system developed by the Fairtrade Labelling Organization (FLO). The FLO certification system plays a dominant role within the fair trade movement today, and its development and impact thus deserve close scrutiny. I examine the FLO system from an interdisciplinary perspective, encompassing work from economics, political science, sociology, and anthropology. I focus primarily on the market for coffee, but occasionally mention other key products, such as tea, to highlight specific aspects of the system. Throughout the chapter and the rest of the dissertation, I use the term “fair trade” to describe the entire movement. I refer to the certification systems and other initiatives of the movement by name, e.g., the FLO system.¹

Fair trade is part of a growing trend among social movements in the world today, in constituting both a political movement for economic justice and a specific set of market arrangements and relationships. The microfinance movement, with its lending

¹ I choose not to capitalize the reference to the broader movement in order to avoid confusion. In the literature, reference to “Fair Trade” denotes alternately the movement as a whole, and the FLO system specifically. The result is some confusion about the meaning of the phrase “Fair Trade,” made worse by FLO’s use of the term Fair Trade Certified to denote participation in its own system. While the FLO system is an important part of the fair trade movement, it is not the entire movement, and in recent years many movement participants have come to oppose it.

institutions such as the Grameen Bank and BancoSol, and the environmental certifications such as the Forest Stewardship Council, exemplify this trend as well. As the movement and the market have both expanded, the tensions between the two aspects of the fair trade movement have become increasingly sharp. The very success of key initiatives of the fair trade movement, such as the certifications, within the neoliberal economic order, have constrained the movement's ability to propose and enact alternatives to that order. The success of the certifications has occurred predominantly through the rapid growth of the FLO system, currently the system's dominant initiative.

The rapid growth and well-documented positive impact of the FLO system has made it one of the most successful initiatives in the *alternative globalization* movement. Yet the FLO system's rapid growth has given rise to substantial tensions that undermine its very character as an alternative to the dominant economic order, known as *neoliberal globalization*. The FLO certification system has become a site of contestation between, on the one hand, proponents of a radical alternative to neoliberal globalization, and on the other, apologists for the current order, who see FLO certification as merely an instrument to improve upon that order by enhancing the welfare of some of its less advantaged participants: impoverished, small-scale farmers and artisans of the global South, which many Northern observers would call the "deserving poor." These two groups both constitute powerful voices within the fair trade movement, and their conflicts represent the central internal conflict of the fair trade movement more broadly. To grasp holistically the fair trade movement, one can neither ignore the undeniable positive welfare impact of its most successful initiative (FLO), nor FLO's role in the dilution of the movement's original transformative vision.

Before delving into this conflict in more detail, the broad social vision of the fair trade movement is worth articulating. The original architects of the fair trade movement, as described by Fridell (2008), imagined an alternative global economic order free of injustice. The development of an equitable trading system was, and remains, an important part of that imagined alternative. During UNCTAD's eleventh conference at São Paulo, a group of developing country representatives joined together to create the first international Fair Trade Declaration. The quote below, an excerpt from that Declaration, articulates a consensus position by the fair trade movement on its place in the broader struggle for global social justice. The declaration reads:

It is often stated that trade has the potential to positively contribute to poverty alleviation, to sustainable development and to achieving the Millenium Development Goals. Experience has shown, however, that if not carried out in a fair and responsible manner, trade can, in fact, exacerbate poverty and inequality, undermine sustainable development and food security, and negatively impact local cultures and vital natural resources. Trade should not be seen as an end in itself but as a means to sustainable development.

Fair Trade is a trading partnership based on dialogue, transparency, and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions, and securing the rights of, marginalized producers and workers – especially in the South. ... At present, the vast majority of businesses do not internalize the costs of their social and environmental impacts. By contrast, the Fair Trade movement believes that in order for trade to be sustainable, and not to distort markets, the full social, environmental and economic costs of goods and services must be taken into account.

Producers, consumers, and businesses are key to the success of Fair Trade, but governments and international institutions also have a critical role to play. True progress requires that the promotion of Fair Trade is carried out hand in hand with efforts to overcome structural inequalities in international trade and finance policies. Recognition of the right to food sovereignty, improved market access with remunerative prices for small producers, stable commodity prices, strengthening of regional agricultural zones as well as overcoming the debt and financial crises are some of the burning issues which need to be addressed.

The above quote has been reproduced at length to illuminate three key positions of the fair trade movement, which can be summarized as follows. First, fair trade movement participants do not view social injustice and exploitation as an intrinsic attribute of markets, but rather view injustice as operating through the current configuration of global markets, particular the domination of these markets by powerful corporate and state interests. Second, fair trade is not seen as a panacea for global inequality, nor does it obviate the need for state intervention to regulate markets. Rather, fair trade organizations and institutions must be seen as complementary to state interventions to secure basic economic rights for poor producers and their communities, and work towards the goal of sustainable and equitable development. Third, the fair trade movement as a whole, even in its most visionary stance, adopts and deploys the rhetoric of neoclassical welfare economics, by asserting the need to internalize the “full social and environmental costs” of production into the price of the product, thereby avoiding the “(distortion) of markets.” These concepts are lifted directly from the welfare economics of Pigou (1920, 1952) and others, and deftly summarized by Marglin (2008).

Out of this initial statement of purpose emerged both the FLO certification system and its critics. While the critics continued to address the world trading system as a whole and the international policies and institutions that shaped it, the architects of the FLO system chose an essentially pragmatic orientation. The founders of FLO sought to construct a non-governmental initiative within the existing world trading system that would directly enact the stated principles of the fair trade movement through a set of certification standards. Fridell (2008) characterizes this approach with the term *shaped*

advantage, denoting the effort to address the concrete needs of particular groups of agricultural commodity producers.

The first producers to benefit from these efforts were cooperatively organized coffee growers in the Mexican state of Oaxaca, who founded a coffee marketing and social service organization called Unión de Comunidades Indígenas de la Región del Istmo (UCIRI) in 1981. The establishment of UCIRI was followed closely by similarly organized coffee cooperatives in Nicaragua, Guatemala, and the Mexican state of Chiapas. These producers sought livelihood strategies that could compensate for the retreat of the state from basic social service provision.² The pioneering coffee producers sought to adapt to the increasing national focus on export markets as an engine of economic growth, and harness this energy to promote the welfare and stability of their communities.

Viewing the retreat of the state as politically inevitable in the short run, these groups of organized small-scale peasant coffee farmers and their allies sought to generate and occupy niches within the world market that would ensure their survival and – many hoped – lay the groundwork for a future alternative order. The producers’ allies included alternative trading organizations (ATOs) based on either charity or political solidarity; they also included policy advocacy organizations such as Oxfam, international and national NGOs, and religious organizations. This group of allied organizations jointly developed the FLO certification system as a way of supervising and regulating transactions without relying on government. The standards were guaranteed by an independent third-party certifying organization, and certified via the issuance of a label.

² In the case of Chiapas, some of the producers were also involved in the Zapatista movement, which directly resisted the Mexican state and created a network of autonomous peasant communities.

Since its inception, the development of the FLO certification system has generated a large amount of hype, hope, and controversy. Its power to transform the dynamics of North-South international trade has often been overstated (hyped); the discovery of its more limited impact often leads to disillusionment. Despite its limitations, it remains an essentially hopeful project, a work in progress with much room for improvement. The controversy over FLO certification has resulted from two interrelated dynamics. First, despite its origins as a joint project between organizations in global North and South, the governance of the certification system itself has evolved to reflect the very unequal power relations that the system was designed to remedy. Economic agents in the global North, most notably large-scale transnational corporations (TNCs), wield disproportionate power within the organization of the certification system, in comparison to the much more numerous, and much less powerful, producers and producer organizations in the global South. This inequity has given rise to the formation of producers' networks such as the Coordinator of Latin American and Caribbean Fair Trade Producers (CLAC), the Network of Asian Producers (NAP), and the African Fairtrade Network (AFN). These networks have increased producers' relative voice and vote within the governance of the FLO system, but have not changed the *de facto* inequities stemming from the TNCs' and certifiers' substantially greater bargaining power. Second, the system's development has reflected existing unequal power relations *within* the global North, as the TNCs, upon entering the system, have wielded increasing influence over both the international (Northern-based) certifier FLO and its members, the national initiatives (NI). The corporations' influence stems from their immense purchasing capacity, which they can use strategically to extract concessions from the

certifiers and block efforts to strengthen the certification standards. In addition, the growth of multiple, competing certification systems – many set up by the TNCs themselves – has given the TNCs additional bargaining power to wield over fair trade initiatives.³ The disproportionate power of the TNCs has given rise to concessions by the NIs in the arena of minimum licensing requirements and commitments to growth. It has also, arguably, impeded the reform of the FLO minimum pricing system, which I discuss further below. The relative neglect of the smaller-scale alternative trade organizations (ATOs), whose active participation designed, built, and supported the certification system in its infancy, has led some ATOs to withdraw from the FLO certification system, and many more to criticize it vocally.

Despite the unequal power relations currently operating within the FLO certification system, case studies and empirical analyses show an undeniable positive impact of participation in the system on the well being of producers. Farmers who participate in FLO- certified marketing arrangements have demonstrated greater security of land tenure (Bacon 2008) and superior nutrition, health and educational levels to those who do not participate (Becchetti and Costantino 2005, Arnould, Plastina and Ball 2008). Participation in the FLO system has also improved the level of farmers' technical skills and organizational capacity (Ronchi 2006, Raynolds 2005, Vanderhoff 2005). Evidence indicates that cooperatives' participation in FLO-certified supply chains has led to spillover price effects on local or regional markets, pushing up conventional coffee prices and increasing all growers' incomes (Milford 2004). I address these impacts in greater detail in section 2.7 of this chapter.

³ These certifications include Rainforest Alliance, Utz Kapeh, and the Common Code for the Coffee Community (4C).

Despite its benefits, FLO certification has proven insufficient to address larger questions of rural development in the global South. Unequal access to the benefits of the system is one important flaw. Access to the benefits of participating in FLO certification has been unequal across rural households in the developing world, for several reasons. First, most households in rural coffee growing communities do not belong to a cooperative. This fact calls into question the accessibility of cooperatives to all peasant coffee producers, especially the poorest. Second, not all cooperatives have been able to join the Fairtrade Labelling Organizations (FLO) Registry, the roster of producer organizations eligible to sell product through the FLO certification channels. The three most important obstacles are waiting lists due to FLO's limited bureaucratic capacity, the inability of some cooperatives to meet the standards of eligibility, and producers' difficulty in implementing the FLO standards. Furthermore, the standards exhibit a noticeable cultural bias towards Western Europe and non-indigenous North America (Mutersbaugh 2005, Apffel-Marglin 2007). Many of the producers come from non-Western indigenous cultures and thus find the standards difficult to interpret and enact, since they rest on different assumptions about how the world works. Third, once on the registry many cooperatives are unable to find buyers willing to certify all of their coffee. Cooperatives with weaker connections to specialty coffee markets or alternative trade organizations (ATO) will find more intense competition for access to FLO-certified markets, and will often be forced to sell a large proportion of their product on the conventional market, even though 100% of their product is eligible to be sold under FLO certified terms. By the most recent estimate, less than half (47.5%) of all coffee eligible to be purchased under such terms has been actually purchased as such (TCC 2009).

Fourth and finally, as Barham *et al.* (2010) and Lewis (2005) show, the FLO system's benefits are insufficient to stem the tide of migration from coffee-growing communities. Remittances from migration provide far greater economic returns than the price support offered by FLO certification.

The chapter will proceed as follows. In Section 2.2, I provide some basic facts about the development of the FLO certification system, showing both its rapid growth and its relatively small size in the global economy. Due to limited availability of data from the other initiatives of the fair trade movement, the data I present come from the FLO certification system exclusively. In Section 2.3, I provide an overview of the FLO certified supply chain for coffee, from the individual coffee farm to the consumer. In section 2.4, I examine the literature on certifications more generally, or what Cashore, Auld and Newsom (2007) call *non-state, market-driven governance*. I examine briefly the case of forest product certification as performed by the Forest Stewardship Council (FSC), and extrapolate that analysis to considerations related to the markets for coffee and the other small-farmer crops that provide the basis for the FLO system. Section 2.5 explores the intersection between the fair trade movement and economic theory. I examine theoretical critiques of the premises of the fair trade movement, from the neoclassical and Marxian perspectives, and show how the institutional environment within which fair trade initiatives operate does not fit either the neoclassical or Marxian narratives particularly well. I conclude this section by identifying concepts from behavioral and new institutional economics that provide a more apt characterization of the fair trade movement and the market and policy failures it has been designed to address. Section 2.6 returns to the empirical analysis of the FLO system, covering the

documented impact of participation in the system on small-scale agrarian producers in the global South. Section 2.7 addresses the limitations of the FLO system in securing benefits to these producers, while Section 2.8 addresses the tensions that characterize the day-to-day operation of the FLO system. Section 2.9 concludes briefly.

2.2. The Growth of the FLO system: Some Key Facts

Since the founding of FLO in 1997, although the share of FLO-certified world trade remains small, the growth of total sales over the 2000s has been dramatic. The value of worldwide retail sales of all FLO-certified products has grown from €831 million in 2004 to €3.4 billion in 2009. Coffee, the system's flagship crop, has grown in volume traded from 11,664 metric tons (MT) in 1998 to 73,781 MT in 2009 (Raynolds and Long, 2007; FLO 2010). The 2009 figure, however, represents only approximately 1.45% of total world trade in coffee during that year. (ICO 2011, author's calculations)

As of 2009, FLO had registered 418 organizations of small producers, representing approximately 893,000 households. FLO has also registered 135 organizations of hired laborers, representing approximately 148,000 workers. Of the small producers' organizations, 209 are devoted primarily to coffee; average household coffee plot size within this group is 3.13 hectares. (FLO 2007, The Benefits of Fairtrade)

FLO-certified coffee imports to the United States have grown from 76,059 pounds in 1998 to 109,795,363 pounds in 2009. Of this coffee, 47% is certified organic. The entry of large-scale retailers, such as Wal-Mart, into the U.S. supply chain for FLO-certified commodities, has reduced the relative demand for double-certified (FLO/organic) coffee and increased the relative demand for conventionally grown FLO-certified coffee. Peru represents the largest single country of origin for U.S.-consumed,

FLO-certified coffee, with imports of 26,775,794 pounds in 2009. Additional annual income to all farmers from FLO-certified imports into the United States alone, beyond what the farmers would have received from world market prices, grew from \$44,000 in 1998 to \$48,209,688 in 2009. Of this extra income, \$13,778,224 represents social premium payments, an accounting category developed by the FLO certification system, in which farmers are required to spend a given per-pound subsidy on community-level projects. The remainder of the above-stated income figure represents additional income that may be either retained within the cooperative or distributed to the farm households, according to the policies of the cooperative (Transfair USA, Fair Trade Almanac 2009).

2.3. Overview of the FLO Certified Supply Chain

In this dissertation, I focus on the FLO certification system for coffee and its place within the fair trade movement. This section describes the supply chain for coffee certified under the FLO system, which forms the bulk of what U.S. consumers and marketers generally call “fair trade coffee.” Six major types of actors make up the FLO certified supply chain: farming households, producer organizations, certifiers, international traders, roasting firms, and financing institutions. Producer communities, producing and consuming country governments, national and multilateral aid agencies, and private donors all play auxiliary roles in the process. This section provides an overview of each of the major groups of actors: these actors form the *dramatis personae* of the fair trade narrative.

2.3.1. Farming Households

Small-scale farming households are the basic units of production in the fair trade coffee supply chain. To qualify for membership on the FLO Registry, these households

must join cooperatives or related democratic organizations. The requirements for joining such organizations are that the households must use predominantly family labor, rather than hired labor, in their production.⁴

2.3.2. Producers' Organizations

In FLO's coffee certification system, farming households must be organized democratically into cooperatives or associations, called generically *producers' organizations* by the certification agencies. Producers' organizations are governed by elected administrative councils, which supervise professional management. Management supervises the functions of post-harvest processing of product, marketing, accounting, technical assistance, quality control, and compliance with certification standards. I provide a more detailed description of the structure and functions of an agricultural cooperative in Chapter 4.

Coffee producer organizations provide technical assistance to member households throughout the year, and collect coffee from the households during the harvest. In Latin America, the process of collection is called *acopio*. Organizations pay households for this coffee in two installments. The first installment is paid when the household delivers the coffee to the warehouse of the producer organization. In this dissertation, I will call this payment the *delivery payment* and its price the *delivery price*. The delivery price is calculated in advance based on the organizations' available funding at the time of harvest. In order to successfully collect coffee from the members, the delivery price must exceed the price offered by the private intermediaries in the local market. The second installment

⁴ The field research I conducted in the Peruvian Amazon in 2007 reveals a third category of labor: mutual aid, or voluntary exchanges of labor services between households, called *choba-choba* in the Peruvian Amazon. As I show in Chapter 5, my research reveals that engaging in *choba-choba* impacts households' degree of participation in cooperatives significantly.

is paid at the end of the harvest season when all export sales have been realized and accounts settled. This payment is called the *dividend* or *liquidation payment*, or the *reintegro* in Latin America. In this dissertation, I will use the term *dividend*. The dividend is a per-unit payment to the grower out of net income from the year's sales. Net income, for a producers' organization, refers to total revenue minus total costs, including the costs of the delivery payments. The lower the final export price of the organization's coffee, and the higher the organization's costs, the smaller the dividend will be.

The number of FLO-registered producers' organizations has grown rapidly through the 2000s; from 2005 to 2009, the number of registered organizations, covering all certified products, grew from 508 to 827 (FLO 2009). Coffee growers' organizations remain the largest single product group within that total; however, a few other products are expanding more rapidly than coffee, including sugar, fruit juices, and herbs and spices. Globally, the majority of FLO-registered producers' organizations are located in Latin America (476), followed by Africa (231) and Asia (120).

2.3.3. Certifiers

The Fairtrade Labelling Organization (FLO) is the dominant fair trade certification agency for agricultural commodities. FLO is divided into two independent agencies: FLO-e.V and FLO-Cert. FLO-e.V sets and maintains certification standards for producers' organizations and trade transactions, manages the registry of eligible producers' organizations, and provides basic organizational support to these organizations. It also serves as the umbrella organization for the 24 national initiatives (NI). FLO-Cert audits producer organizations and trade transactions. Producer organizations that successfully adhere to the organizational standards are admitted to the

FLO Registry. Trade transactions that comply with the trade standards are granted the use of the FLO certification label. I now proceed to discuss the basic functions of FLO-e.V and FLO-Cert in greater depth.

2.3.3.1. Standards Setting

FLO-e.V sets two broad types of standards. One type of standard covers producers, and the other covers trade transactions. Producer standards were originally developed to provide a set of criteria for successful democratic smallholder-based producer organization, based loosely on the cooperative/association model described above. The FLO standards define smallholders, in this context, as farm households that rely predominantly on family, rather than hired labor.

The standards for producer organizations were originally developed by FLO's precursor organization, the Max Havelaar Foundation, for coffee, cacao, and other smallholder crops. Since the establishment of FLO in 1997, the certification system has expanded into crops and products such as bananas and tea, which tend to be produced on large-scale plantations or estates. As a result, a parallel set of standards for large farms, estates or plantations has been developed. These standards require workers' rights to collective bargaining to be respected, mandate the payment of national minimum wages, prohibit employers from using child labor, and require adherence to ILO conventions for occupational health and safety. FLO calls producer organizations and plantations the two *modalities* of producer standards. In addition, both producer organizations and plantations must adhere to a set of environmental standards that prohibit the use of certain pesticides.

The producer standards described above encompass one of the two broad types of standards established and maintained by FLO-e.V. The second type of standard covers

trade transactions. These standards are applied to individual transactions between trading firms, based in the global North, and certified producer organizations or plantations based in the global South. In the FLO system, unlike in a company-based certification system, the standards do not cover the entire business organization of the trading firm.⁵ The trading firm is bound to the FLO standards only for the transactions that it has agreed to certify. In the remainder of its transactions, no standards are imposed.

In a FLO-certified transaction, the trading firm must pay a minimum price, provide an additional premium payment called the *social premium*, retain the trading relationship through at least one harvest cycle, and provide pre-financing to the producer if asked. These requirements only cover those transactions that the firm in question chooses to certify. Before the entry of corporations, firms seeking to certify transactions under the FLO system within the United States were required to certify a minimum of 5% of their total production. However, large corporations have successfully negotiated greater flexibility in the minimum entry requirements; Starbucks, for example, entered the FLO system in the United States with only 1% of its total production under certified terms (Jaffee and Howard 2009).

The social premium represents a subsidy to the producer organization or plantation intended to be used for the welfare or community development of either the smallholders or the workers. In either the plantation or the smallholder case, the premium may not be distributed as income. In the case of smallholder organizations, the premium must be retained within the organization and its use decided upon democratically. In the

⁵ The standards do, however, cover the entire producer organization. The implications of this asymmetry are not lost on well-informed producers and their advocates.

case of plantations, an elected worker-management council called a Joint Body must be established to manage the social premium.

The FLO standards are developed and maintained by a committee within the FLO-e.V organization called the Standards Unit (SU). The SU consists of a council made up of the stakeholders in the process: producers, trading firms, and national initiatives (NI) as well as external experts. Currently, three producer representatives, two trader representatives, two NI representatives, and one expert make up this council (FLO 2010b). Any stakeholder or group of stakeholders can propose a new standard or the amendment to an existing one, but the SU alone is empowered to make binding decisions on these proposals. These decisions are made after a period of research and consultation with stakeholder groups and the public (FLO 2006a).

Perhaps the most important trade standard under the SU's purview is the minimum price. The minimum price is a floor price for FLO-certified transactions. Each traded product is assigned a minimum price based on what FLO calls the Cost of Sustainable Production (COSP). Minimum prices for products differ slightly across regions of origin based on rough estimates of the cost of production, processing and transport, as well as a basic standard of living for the producer. The Standards Unit devotes an entire subcommittee, known as the Pricing Subunit, to the calculation of the appropriate minimum prices.

The standard procedure for creating new minimum prices, or changing existing ones, follows the same set of steps as for other standards (FLO 2010a). The key difference is that the research procedure is considerably more complex. The procedure involves estimation of the cost of all inputs to production including labor, all investments

in production, and amortized cost of any infrastructure and/or land used in production or processing. In the case of FOB prices, costs of transporting to port are included. FLO-e.V's Liaison Officers, based in producing countries, as well as representatives from the regional producer networks, are all solicited for input into this process. The SU conducts Price Reviews every eight years based on updated COSP data, taking into account changes in the exchange rate of the producing country in question, as well as that country's consumer price index (CPI).

Despite these procedures, widespread discontent with the current minimum price has emerged. This discontent has arisen for two reasons. First, inflation and exchange rate fluctuations have combined to erode the real value of the minimum price by an average of 39% since the pricing system was established in 1997 (Bacon 2007, Jaffee 2010). The campaigns by organized groups of coffee producers to review or raise the minimum price have so far been unsuccessful. Second, repeated calls by large traders and some NIs for a reduction in the minimum price have led to the perception among producers, NGOs and ATOs that the FLO system is in danger of capture – or has already been captured. Jaffee (2010) makes use of Stigler's (1971) theory of regulatory capture to argue that this process has occurred within FLO.

2.3.3.2. The FLO Registry

All producers' organizations or plantations that seek access to FLO certified market transactions must become members of the FLO Registry. To become a member of the FLO Registry, the organization must submit an application and agree to an audit, for

which it must pay the full cost.⁶ The audit consists of five steps. First, the auditor meets with the organization's staff and leadership to plan the audit. Second, the auditor reviews the organization's documents, including its financial statements, organizational structure, internal statutes or policy documents, and internal occupational health and safety standards. Third, the auditor interviews selected members of the organization. Fourth, the auditor undertakes a site visit that includes a tour of the organization's office, production and processing facilities, and individual farms in the case of a smallholder-based organization. Fifth, the auditor meets once again with the organization's leadership, and discusses any aspects of the organization that do not meet the FLO standards (FLO-Cert 2010).

From the audit, the auditor generates an evaluation of the organization that indicates any shortfalls in the organization's compliance with the FLO standards. The organization is then given a specified period of time to comply with the standards. Once the organization has successfully met the standards, it is given a certificate and admitted to the FLO registry. The organization must then renew its certification by submitting to yearly audits of the type described above, for which it must pay the full cost.

2.3.3.3. Organizational Support

FLO has been offering support to producer groups since 2004 through its Producer Services and Relations Unit (PSRU). The PSRU provides consultation services in areas of market access, relationships with buyers, and certification compliance. The PSRU works by means of Liaison Officers (LO) stationed in producing countries, and publishes training manuals and documents for producers. In practice, the bulk of PSRU's

⁶ Financial aid, in the form of grants from either FLO or an allied NGO, is sometimes available to defray this cost. Low-interest loans from a development-oriented bank such as Root Capital are also available. Nonetheless, producers frequently cite certification fees as a considerable financial burden.

work consists of training producers to comply with Fairtrade standards. This process has come under criticism from many producers, NGOs and outside observers, since it implies that the standards have been set in such a way as to be inaccessible or incomprehensible to producers. Evidence from ethnographic fieldwork confirms that the standards contain language and concepts that many producers find difficult to comprehend. Moreover, the standards often mandate the adoption of Western European or North American conservation practices for which viable indigenous analogues exist; compliance then requires that the European/American practice be adopted, ignoring the existence of the indigenous practice (Apffel-Marglin 2007). I discuss these issues further in section 2.9.2.

2.3.3.4. Trade Auditing

The FLO system imposes standards on traders and purchasing firms as well as producers. In the case of coffee, the primary purchasing firms are coffee roasters who prepare blends of roasted coffee for the consumer market and the restaurant/café industry. These coffee roasters do business with a separate group of large-scale international trading firms. For the purpose of this subsection, I will use the generic term *traders* to apply to both the trading and roasting firms in the coffee industry. The FLO standards make no distinction between them. As stated above, the FLO trade standards only apply to the transactions that the trader or purchaser in question chooses to certify under Fair Trade terms. The remainder of the business conducted by the traders falls outside the purview of the FLO standards and is thus part of the conventional world market.

FLO-certified trade transactions must comply with four basic criteria. First, the trader must pay a minimum price, defined by the COSP research process described above. In the case of coffee, in addition to this minimum price, the trader must pay a per-

pound premium for social development (\$0.10), and an additional premium for coffee that carries an organic certification seal (\$0.20). Second, the trader must submit to the producer organization a *sourcing plan* for the upcoming harvest cycle. This plan must include estimates of the quantities and qualities of the product to be purchased, the dates of the intended purchases, and the prices paid for each purchase. This standard was developed to ensure exchange of information between traders and producers, and provide the producers with reasonable expectations of near future transactions. Third, the trader must provide to the certification agency (FLO-Cert) physical traceability of the product from the producer organization, including the name of the producer organization, the dates of purchase, the quantities and qualities of the product, and the physical form of the product when purchased. Fourth, the trader must ensure the provision of pre-harvest financing up to 60% of the contract value to the producer, whenever the producer requests it. This financing may be provided by the trader directly, or arranged through a participating financial institution. The standards stipulate that the interest rate charged by this institution to the producer may not rise above the trader's current cost of borrowing.

The certification agency for the FLO system, FLO-Cert, audits all transactions that participating traders wish to certify. FLO-Cert communicates the compliance with the standards to FLO-e.V, which issues the label to the trader for a per-pound certification fee. The trader then possesses the right to display the FLO label on the product containing the goods that were traded under the terms of the certified transaction.

2.3.4. International Traders

International traders are the next important group of actors in the FLO certification system. In the world coffee market, international traders occupy a niche

between coffee exporting firms, based in the producing countries, and roasting firms, based in the consuming countries. The traders purchase coffee from exporting firms and sell it to roasters. Traders also purchase coffee from the spot markets in the United States or Europe. To reduce the risk associated with price volatility, traders make use of futures markets to lock in specific prices or ranges of prices. These risk-management techniques, called *hedging*, are described in greater detail in Chapter 3, section 3.5.4.

The international coffee trade is highly concentrated; the top five trading companies controlled 46% of the entire world trade in 1998 (Ponte 2005) and the overall trend has been towards greater concentration. The largest two international coffee trading firms are Neumann and Volcafé, which control 16% and 13% of the total trade respectively. On average in the year 2000, traders earn approximately 8% of the final retail value of a bag of roast and ground coffee, not counting the additional value added by preparation of the beverage in cafés (Economist Intelligence Unit 2000). The largest trading enterprises typically certify a very small percentage of their total trade; the quantity certified is determined by demand from roasters further down the trading chain, whose demand for certified coffee is in turn ultimately determined by consumer behavior.

In addition to the massive trading enterprises that dominate this link of the coffee value chain, a number of smaller enterprises occupy niches within the trading chain. Lewin *et al.* (2004) identify an ongoing process of *differentiation* of coffees, which encompasses gourmet, sustainable, and ethically traded coffee varieties. These smaller enterprises range in size and scope; some focus primarily on gourmet coffees while others are primarily ethical in nature. The term *specialty coffee* is sometimes used to describe gourmet coffee only, but also used to describe the entire universe of

differentiated coffees, including sustainable and ethical types, such as those coffees certified by FLO and related initiatives.

Illustrative examples provide the best way of understanding the diverse group of organizations that encompasses the specialty coffee market. An example of a diversified specialty coffee importer is Royal Coffee, based in Emeryville, CA, which offers a significant percentage of its coffees under Fair Trade terms but also trades in non-certified gourmet, organic certified without the FLO seal, and various other designations. An example of a strictly ethical or fair trade coffee trading firm is Americus, Georgia-based Cooperative Coffees, which is a cooperative trading firm democratically run by a group of independent coffee roasters, including Dean's Beans of Orange, MA.

Cooperative Coffees is committed to paying prices at or above the FLO minimum for all of their purchases. Though they choose not to certify all of their coffee under the FLO system, they also publish invoices online so the customer can verify that above market prices were paid. Cooperative Coffees is generally known to adhere to substantially higher ethical trading standards than the FLO system itself.

A related though distinct group of coffee traders and roasters has adopted a model called *direct trade*, which works with individual farmers outside the scope of certification systems. Intelligentsia Coffee, based in Chicago, IL, is an example of such a firm, which integrates trading and roasting functions. Intelligentsia reports per-pound prices that exceed the FLO minimum price, but the company does not certify its coffee under the FLO system. The company works predominantly with individual farmers rather than cooperatives. According to its own claims, the company expects higher levels of quality

than the average FLO-certified cooperative can provide. I describe the international coffee trade in greater detail in section 3.2.

2.3.5. Roasting Firms

Coffee roasting firms make up the next important group of actors in the fair trade supply chain. The coffee roasting industry, like the coffee growing industry, has a bimodal structure: most roasting firms are either very large or very small. In the aggregate, the roasting industry is even more concentrated than the import trade. In 1998 the top five coffee roasting firms controlled 69% of the entire world industry; the top two firms, Philip Morris and Nestlé, controlled 25% and 24% respectively (Ponte 2005).⁷ The roasting industry captures an estimated 30% of the retail value of roasted and ground coffees, making it the single largest income earner along the commodity chain (Economist Intelligence Unit 2000). Large roasters typically either avoid FLO certification entirely, choose alternative certification systems that are less demanding, such as Utz Kapeh, or else choose to certify small portions of their product through FLO, often for the purposes of bolstering their reputations or warding off bad press. The Tropical Commodity Center estimates that in 2008, out of 780,000 tons of coffee roasted, Nestlé chose to certify a mere 2,000 tons under the FLO system, or 0.25% of total output; it also chose to certify 13,000 tons of coffee, or 1.67%, under its proprietary certification system, “AAA Nespresso.” Of the large coffee companies, Starbucks certifies the largest proportion of its production under FLO terms, 5.14% in 2008, as well as 69% certified under their proprietary “CAFE Practices” system (TCC 2009).

⁷ Philip Morris merged with Kraft in 2000.

Since the fall of the International Coffee Agreement in 1989, the international coffee roasters have strengthened their position with respect to the other actors in the supply chain, including trading firms, retailers, and all actors in producing countries. The implementation of supplier-managed inventory (SMI) systems by roasters, which entail that stocks of coffee be held by trading firms instead of the roasters themselves, has allowed roasters to maintain close to optimal levels of inventory to meet changing consumer demands, thereby lowering costs and increasing profit margins on sales (Ponte 2005).

In addition to the ten large roasters, the coffee roasting industry is home to a large and growing group of small- and micro-roasters, many of which espouse fair trade as a core principle of their business. Fair Trade USA (formerly TransFair USA), the United States's National Initiative under the FLO system, boasts 415 participating coffee roasting firms that possess licenses to certify some amount of product under the FLO standards (Fair Trade USA 2011). The vast majority of these firms are small-scale, independent coffee roasting companies selling within a local or regional radius. Many of these roasting companies were present at the creation of the United States certifier; the first roaster licensed by TransFair USA was Canton, MA-based Equal Exchange, in 1988. Committed coffee roasters, such as Equal Exchange and Dean's Beans, have played a key role in the development of the system as a whole, providing both its most active participants and its most vocal critics. These roasters engage in frequent protest of the certifiers' willingness to make compromises with large corporations in the areas of minimum licensing requirements, commitment to growth, and failure to raise the minimum price in the face of the erosion in its real value. Their advocacy work calls

attention to the attempts of corporations to advertise their participation in fair trade arrangements in ways that obscure the corporation's relatively weak commitment to those arrangements – a practice known as *fairwashing*.

2.3.6. Auxiliary Organizations

The FLO certification system is bolstered by a group of auxiliary organizations that provide complementary services to producers and their organizations. Briefly, these organizations consist of the following five groups: financial institutions, international aid agencies, national aid agencies, NGOs, and developing country government agencies.

1. The FLO system and its participants benefit from a group of participating financial institutions, such as Switzerland's Rabobank or the United States' Root Capital, which orient themselves towards the provision of agricultural credit to small-scale to medium-sized enterprises, including cooperatives.

2. International aid agencies, such as the United Nations Development Program (UNDP), provide technical and organizational assistance to newly forming cooperatives.

3. National aid agencies, such as USAID, DFID (UK), and GTZ (Germany), fund and carry out technical assistance and capacity-building projects within the cooperatives.

4. International NGOs, such as Chemonics, specialize in technical assistance, often under contract from a national aid agency such as USAID. These NGOs will often work closely with the cooperatives on capacity building.

5. Governmental institutions in producing countries, such as Peru's FONCODES (Fund for Cooperation and Development), preserve the vestiges of the agricultural extension systems formed in the post-World War II era. These systems were drastically

reduced in size after the international debt crisis and the turn towards private-sector-driven (neoliberal) economic policies.

2.4. Certification Systems: Market-Driven Governance

The FLO system relies on certification to guarantee price premiums, long-term relationships, democratic farmer organization, and environmental protection. This section examines briefly the growth of certification practices as a major locus of international governance. Conroy (2007) provides a definitive treatment of certification systems, describing the growth and development of social and environmental certification systems in sectors as diverse as coffee, mining, tourism, and finance. Conroy's central argument holds that with the globalization of communications, the maintenance of a positive reputation has become a key aspect of multinational corporate business. In his theory, multinational corporations maintain advantage over their competitors through superior brand reputation. The possibility of boycotts, protests, and bad press resulting from the discovery of various forms of corporate malfeasance has driven corporations to embrace a variety of forms of social and environmental monitoring as a *risk-reduction* strategy independent of the ethical attitudes of the corporate managers. Essentially, corporations associate their brands with one or more secondary brands (certifications) that carry with them a message of trustworthiness. The corporations thereby avoid being *branded* as wrongdoers.

The work of Cashore, Auld and Newsom (2003) explores the dynamics of third-party certification systems in greater depth. The authors characterize certification systems as forms of *non-state, market-driven governance*. In this type of governance system, non-governmental actors directly influence the policies and practices of private firms through

positive and negative incentives. Positive incentives involve the organization of price premiums in exchange for desirable corporate policies, such as paying living wages to workers or fair prices to suppliers. Negative incentives include boycotts and bad press in response to undesirable policies, such as violations of labor laws or environmental regulations. The above authors undertake a systematic study of the effectiveness of this form of non-state governance in the context of the certification of forest products by the Forest Stewardship Council (FSC). They find that the responsiveness of firms to external pressures differs widely across countries and regions, according to three structural factors: the country or region's place in the global economy, the structure of the country's forest sector, and the historical relationship between forestry and the public policy agenda of the country.

From a detailed analysis of five countries' forestry sectors, Cashore *et al.* (2003) generate seven hypotheses, of which two are of direct relevance to the fair trade movement. These two hypotheses capture some of the key dynamics behind the explosive growth of fair trade coffee. First, forestry sectors in a given country tend to be more willing to adopt FSC practices in response to transnational pressures when such sectors are *more* integrated into the global economy through either imports or exports. Conversely, a forestry sector that depends to a greater extent on domestic production for domestic consumption tends to be *less* willing to adopt FSC practices. Hence, the degree of global integration of the *origin* market exerts a positive influence on the adoption of FSC practices. Applying this insight to fair trade coffee certification, we find that coffee is a good candidate for a certified commodity; coffee production in the global South tends to be almost exclusively export-oriented, with the exception of Ethiopia and Brazil, both

of which consume as well as produce coffee. Second, a forestry sector in a given country that depends for its sales on exports to a foreign country or group of countries that are dependent on imports for a large portion of their forest products, will also tend to be more willing to adopt FSC practices. Conversely, a forestry sector in a given country that exports to a foreign country that is relatively self-sufficient in forest products tends to be less willing to adopt the FSC practices. Hence, the degree of global integration of the *destination* market exerts a positive influence on the adoption of FSC practice. Likewise, in the case of coffee, most of the consuming countries are not producing countries.⁸

These findings suggest the importance of *transnational* advocacy networks (Keck and Sikkink 1998), in contrast to domestically oriented networks, in the promotion of standards-setting and certification practices. The authors argue that transnational networks are able to bypass the complexities and obstacles of domestic interest-group politics, and address directly the practices of firms without having first to negotiate transformations in public policies. Operating within a domestic market, by contrast, would lead to more intense competition between the advocates and the firms, who possess considerable power in fending off domestic pressures through their support or opposition to elected officials. The firms possess far less power to fend off foreign pressures, since they are unable to counter this pressure through relations with foreign elected officials. Thus, transnational advocacy networks will face fewer obstacles in convincing consumers or governments to boycott or selectively purchase foreign imports, than they would in attempting to change consumers' purchases of domestic products. In the latter case, domestic firms' influence may preclude or impede the effectiveness of

⁸ The country with the largest per-capita coffee consumption globally is Finland, which produces no coffee at all.

such interventions, whereas foreign firms enjoy relatively weaker influence in the target consumer market.

Muradian and Pelupessy (2005) develop the concept of *voluntary regulatory systems* to explain the growth of coffee certifications. They distinguish between four types of voluntary regulatory systems. *First-party* regulation refers to a corporation's internally developed codes of conduct or social responsibility initiatives. The corporation develops its own standards, and either hires a third party to verify that the corporation has stood by its own claims, or risks reputation by making unsubstantiated claims. Starbucks' CAFÉ Practices is an example of a first-party regulatory system, which is verified by Scientific Certification Systems, an independent certification company. *Second-party* regulation refers to certification systems developed by industry associations, which may also be verified by independent organizations. The Sustainable Agriculture Initiative (SAI) is cited as one such system. These systems, like their first-party counterparts, tend to be met with skepticism from well-informed advocates for social justice or the environment. *Third-party* regulation refers to standards and certification systems both developed *and* implemented by independent organizations. The FLO system is an example of a third party, voluntary regulatory system, as are the organic and shade-grown certifications. Another third-party system is the Utz Kapeh coffee certification, which provides a small price premium, verifies coffee plantations' compliance with the labor and environmental regulations of the country of origin, and serves a clientele of large-scale European trading companies and retailers. The authors define, as well, *fourth-party* regulation, which refers to multi-stakeholder processes of governance. For an example of such a system, they cite the 4C (Common Code for the Coffee Community), which brings

together development agencies and large-scale traders, and uses ILO conventions as a basis for voluntary regulation. However, this characterization is not apt, since the 4C does not actively involve the coffee growers themselves and thus does not fully embody the principles of multi-stakeholder engagement. The Forest Stewardship Council, which brings together representatives from forest communities of global North and South, the timber industry, and the NGO community, represents a more authentic multi-stakeholder regulatory effort.

More recent literature on eco-labeling addresses the consumer's side of the certification process, rather than the firms and advocates on which Cashore *et al.* focus. Brécard *et al.* (2009) examine empirically the determinants of demands for eco-labeled seafood from a survey of 5000 consumers in the European Union (EU), using a bivariate Probit model. They find that consumers who purchase eco-labeled fish are also likely to pay attention to a host of other criteria, including freshness and location of origin. Surprisingly, eco-label consumers tend to be more price-sensitive than other consumers, not less. Consumers who believe that fisheries are better regulated will tend to demand eco-labeled fish to a lesser degree; effective public regulation makes supplemental private regulation unnecessary. Younger, more educated, and female consumers tend to purchase eco-labeled fish to a greater degree.

Certifications provide an important and growing form of non-governmental market governance. The most successful certifications, such as FLO and the FSC, have demonstrated clear benefits to producers and the environment, and enjoyed both explosive initial growth and robust expansion. The question remains open as to whether

or not certifications provide an adequate solution to the problems of poverty, social inequity and environmental degradation they were designed to address.

2.5. Economic Theories and Fair Trade

This section addresses theoretical critiques of the fair trade movement's structure and focus, focusing on the FLO certification model. I review neoclassical, Marxian and institutionalist perspectives on the FLO system. From this brief theoretical review, it becomes clear that the intricacies of fair trade practices do not fit neatly into either neoclassical or Marxian visions of how economies work, or how they develop over time. The behavioral and institutional traditions in economics, by contrast, provide a much more robust and flexible paradigm within which to understand the process and practice of fair trade.

2.5.1. Neoclassical Critiques

Neoclassical thinkers have criticized fair trade certification for distorting the international commodities market by setting a price floor above the equilibrium market-clearing price. The most widely read of the neoclassical critiques, Lindsey (2003), argues that the roots of the coffee crisis amount to nothing more than an oversupply of coffee. Hence, "low (coffee) prices are a signal to high-cost producers – for example, in Central America – to supply a higher-value product or exit the market." Fair trade certification, by ensuring a minimum price, distorts those price signals.

Lindsey's critique ignores some of the main benefits of the FLO system, including its capacity to assist producers in *quality upgrading*, a term I explain in the next chapter. He advocates the kind of services performed by market-oriented NGOs such as TechnoServe, who provide technical assistance to coffee producers seeking to enter the

specialty market. However, he ignores the possibility that the FLO minimum price can play much the same function as TechnoServe, allowing producers to purchase technical assistance services and quality-enhancing assets such as improved processing facilities. Furthermore, Lindsey's theory implies that fair trade and conventional coffee form a single homogeneous commodity, while specialty coffee forms a different homogeneous commodity. Fair trade and conventional coffees are assumed to share a single market supply and demand curve, while specialty coffees share a separate market supply and demand curve. In reality, the quality of most fair trade coffee falls somewhere along a continuum between that of conventional and specialty coffee, and increasingly toward the specialty end of the spectrum. Lindsey represents the "market fundamentalist" case against fair trade.

LeClair (2002) compares and contrasts the microeconomic effects of providing of a price support to a producer, via fair-trade pricing, with the effects of a direct subsidy or handout. He argues that the direct subsidy is likely to be more economically efficient, since a portion of the price premium from the fair trade scheme will be eroded by the producer's increased input purchases. However, a direct subsidy also offers the possibility of rewarding producers for not working. Providing a price subsidy, by contrast, transforms the producer's subjective labor-leisure tradeoff such that total labor applied to production may increase. Further, he argues that consumers are more likely to purchase fair trade goods than voluntarily donate cash to struggling producers. However, he argues that only providing fair trade benefits to a small subset of producers may in fact harm those excluded from the system.

Maseland and de Vaal (2002) take a broad view of the fair trade market and ask whether or not it compares favorably to free trade. They ask the following question: if all consumers in a wealthy country commit to paying above free-market prices to all producers in a poor country, does the welfare of the producers in the poor country increase? Their answer is simply stated using a classical export supply – import demand framework. In this framework, a “fair trade price” acts as an import quota in which the quota rents are assumed redistributed equally among the producers. Due to the concern for “fairness” between the two countries, the authors disregard the loss of consumer surplus due to the quota. Thus, if the magnitude of the quota rents exceeds the loss in producer benefits from the import restriction, then the fair trade pricing scheme improves producers’ welfare. This condition will hold if the price elasticity of demand for the product is sufficiently low. Though the model is not well specified enough to be subjected to empirical testing, the low demand elasticity is a well-known characteristic of the coffee market.

Though these studies vary considerably with respect to their sympathy for the fair trade certification system, they all possess three common weaknesses. First, they lack understanding of both the institutional environments which developing-country smallholders and artisans inhabit, and the attempts by fair trade movement or market actors to transform those environments. Secondly, they lack an awareness of the historically conditioned power relations within which small producers in developing countries operate. Power relations both within and between developing and industrialized countries influence the prices and services developing-country farmers receive. Finally, the studies ignore positive and difficult-to-quantify spillover benefits to producers from

participating in the system, such as improved self-esteem, increased social interaction, and higher productivity of labor in the producer's field or workshop. To LeClair's credit, he identifies the role of alternative trade organizations in increasing labor productivity in the artisan sector through the provision of marketing expertise, targeted lending, and product development consulting services. However, any additional social, psychological or purely economic positive benefits, potential or actual, are neglected.

Marglin (2008) provides an eloquent critique of the neoclassical views of fair trade. Responding to the critics who argue that raising coffee prices will inevitably lead to reductions in quantity demanded, Marglin points out that consumers with *altruistic* or *social preferences*, who take into account the well being of others, may be willing to pay a premium for coffee in exchange for the certain knowledge that the producer was compensated fairly. In other words, fair trade coffee and conventional coffee do not share a single demand curve. The demand curve for fair trade coffee lies to the right of the demand curve for conventional coffee; consumers are willing to pay a higher price for any given quantity of the product. Consumers' preferences for fair trade coffee may well reveal the limitations of the assumptions of *homo economicus*. The fair trade marketing literature focuses on personalizing economic exchange, putting a human face on commodities (Jaffee 2007). Fair trade marketing attempts to make the consumer feel as if he or she has a direct relationship with the producer. This tendency suggests to Marglin that the fair trade market may act as an imagined community, of a different kind than the nation-state of which Anderson (1983) wrote, but sharing some of the same characteristics. Notably, producers tend to receive far fewer messages of community with consumers than vice versa; Varul (2007) attributes this asymmetry to consumers'

romantic fantasies about virtuous, impoverished producers, and the importance of such fantasies – accompanied by exoticism and colonial guilt – for the growth of fair trade commerce.

2.5.2. Marxian Critiques

Thinkers in the Marxian tradition have been ambivalent in their assessment of fair trade. There are two strands of Marxian thinking about the fair trade movement. One strand argues that the fair trade movement operates from a faulty analysis of capitalism, implying that its efforts are directed incorrectly. Marxian theory holds that production relations, not exchange relations, are the primary locus of exploitation in the capitalist system; the fair trade advocates imply that the reverse is true by focusing on exchange relations. I call this critique the “productivist” or classical Marxian critique. The second critique argues in support of fair trade, on the grounds that it plays an important role in undermining the fetishism of commodities, a key bulwark of false consciousness under capitalist relations of production. A Marxist critic of fair trade such as Gavin Fridell (2007) articulates both critiques, thus revealing ambivalence about the efficacy of fair trade in challenging the dominance of global capitalism. I shall focus on the productivist / classical Marxian critique here, since it is more relevant than the second critique to the analyses that follow.

The productivist critique can be traced to Robert Brenner’s seminal (1977) article critiquing the dependency and world-systems theories advanced by Andre Gunder Frank and Immanuel Wallerstein. In this article, Brenner argued that Frank and Wallerstein had mistakenly identified the spread of the world market as the principal motive force behind capitalist development. Brenner argued that the transformation of production relations

through class conflict was the central motive force in capitalist development. Only the capitalist institution of free wage labor, argued Brenner, could induce capitalists to revolutionize the means of production, thereby generating the increases in labor productivity that underpin long-run economic growth. Unfree forms of labor, such as slavery or serfdom, could be used in production of commodities for the world market, but could never respond to market forces through sustained productivity-led expansion. Also, a free peasantry operating outside the sphere of capitalist production relations would lack the impetus to revolutionize production techniques, being motivated primarily by subsistence instead of profit. Applying this critique to fair trade, a Marxian thinker in the tradition of Brenner would argue that the fair trade movement, like Frank and Wallerstein, misidentifies the world *market* as the locus of exploitation of producers in the global South.

Brenner's critique focuses on industrial commodities, and the continuous technical change that makes the production and sale of such commodities the primary driving force behind world economic growth. In these cases, his critique largely holds. In the case of agricultural export products such as coffee, however, the picture is more complicated. Coffee farming, for example, contains heterogeneous production and exchange relations. The coffee market is divided between a small number of large plantations on the one hand, and a mass of smallholding farmers on the other, in a *bimodal* ownership structure. Oxfam (2002) estimates that 70% of all coffee farms are less than 10 hectares, 15% are between 10 and 50 hectares, and 15% are over 50 hectares. Production relations are heterogeneous on small coffee farms as well. Some smallholders exhibit classically entrepreneurial-capitalist characteristics: they depend on wage labor,

produce using yield-maximizing (or at least yield-enhancing) techniques, and seek to expand their landholdings. Other smallholders exhibit classical “peasant” characteristics, relying predominantly on family labor, using production techniques that privilege on-farm biodiversity over per-hectare yield, and growing subsistence crops as the basis for everyday consumption. These two types of smallholder coffee growers should be seen as poles on a continuum, with many intermediate types in between.

The bimodal structure of landownership in coffee entails two separate forms of labor exploitation on coffee farms. Roseberry (1995) summarizes the world-systems (Wallerstein) view of coffee’s bimodal ownership structure as implying two contrasting “solutions” to the incorporation of coffee into the capitalist world-economy: the “plantation solution” of integrated production and exchange structures with slave or wage labor, and the “merchant” solution, in which profits are extracted from dispersed producers by the market power of large-scale commercial traders. In Latin America, the plantation solution predominates in Brazil, Guatemala, and El Salvador, though the latter two countries also contain significant numbers of smallholders. The coffee economies of Colombia and Costa Rica are strongly bimodal, and the merchant solution predominates throughout most of the rest of the continent, including Peru. We can call the plantation solution a case of *Marxian* exploitation, and the merchant solution a case of *neoclassical* or *Smithian* exploitation, in which the market power of concentrated, large-scale traders suffices to extract surplus from dispersed, small-scale commodity producers. Under Smithian exploitation, while commodity producers in coffee follow the circuit of simple commodity production CMC’, traders follow the circuit of capital MCM’. The commodity producers may, in the movement from M to C’, employ hired laborers, who

they pay subsistence wages. However, the total surplus value extracted from these labors through the production process is often just sufficient to maintain the producer at a subsistence wage, and sometimes below even that. Furthermore, labor relations on coffee farms, both large and small, are more complicated than a simple Marxian exploitation story can capture. Roseberry and his colleagues, including McCreery (1995), Stolcke (1995), Jiménez (1995), and Gudmundson (1995) articulate a large continuum of forms of contracting within the worlds of Latin American coffee, including contract labor, seasonal labor, and sharecropping in addition to wage labor, slavery, and smallholder production. The studies further demonstrate that the development of coffee in Latin America is intimately bound up with colonialism, racism, patriarchy, and questions of land use on the expanding frontier, often entailing the displacement, forcible resettlement, and forced labor conscription of indigenous peoples, and the enslavement of forcibly transplanted Africans.

In summary, smallholder coffee growing is one case in which exchange relations are often more important than production relations in explaining the poverty of the direct producers. Exchange relations, in particular, explain the distribution of income along the coffee commodity chain (see Chapter 3). Farm prices are only a minuscule fraction of retail prices due primarily to exchange relations in the coffee supply chain: as the product moves “downstream” from farm to market, the market becomes increasingly concentrated. Large roasters are able to capture the largest portions of the value chain because of their ability to undertake two highly profitable activities: develop and market highly visible brands, and engage in aggressive supply-chain management.⁹ In the world

⁹ For an elaboration of these arguments, see Daviron and Ponte (2007).

of coffee, buyer power is at least as important as employer power in determining who gets what.

Turning to the dynamics of the coffee economy, the classical Marxian questions of agrarian transition remain unsettled. Gudmundson (1995) demonstrates a tendency towards class stratification in Costa Rica, echoing traditional Marx-Lenin theses on the inevitable differentiation of the peasantry. However, the persistence of micro-holdings elsewhere in Latin America revealed by Jaffee (2007) and others suggests that there are forces moving in the opposite direction as well, towards what Jaffee and other scholars have called *re-peasantization*, or a flight from commerce to subsistence in the face of crisis. This work echoes the research of De Janvry (1981), which shows that the existence of small subsistence farms allows employers on large commercial farms to pay wages below subsistence, which the farmers supplement by self-provisioning. De Janvry gives the name *functional dualism* to this arrangement, and cites it as a major factor entailing the persistence of small farms in Latin America in general. In De Janvry's analysis, subsistence farms also provide a safety net for agricultural laborers in the face of fluctuating demand for labor on large commercial farms. The functional dualism argument provides a succinct explanation for the existence of subsistence farms whose operators engage in off-farm wage work for a substantial proportion of their income. The functional dualism framework is less apt to explain the existence of farms that divide their activities between self-provisioning and commercial activity, and whose operators either never hire themselves out as wage laborers, or do so on a very limited basis. Such farms characterize a large portion of my research sample, as well as that of Jaffee (2007).

There are a number of possible explanations for the persistence of the semi-subsistence, semi-commercial farm. First, maintaining a subsistence plot acts as an insurance policy when commercial income is uncertain in the face of fluctuating prices or weather conditions. Second, labor markets may be missing, or alternatively, the cost of job search, combined with low wages, may suppress total expected returns to wage labor below the expected returns to commercial family farming. Third, smallholders may have preferences for family-based farming over wage labor, on grounds of autonomy or the pleasure of working alongside close kin; the disutility of wage labor may exceed (by a large margin) the disutility from family farm labor. All of these factors may account for the persistence of smallholders, for whom poverty is primarily the result of unfavorable relations of exchange.

Exchange relations must also be examined in the context of the impact of market fluctuations. Falling coffee prices often reach levels below smallholders' cost of production, which in practice means below the level of household subsistence. Smallholders' lack of bargaining power with respect to traders ensures that they are unable to bid the price upwards to attain a reasonable standard of living. Lack of bargaining power is not the whole story; additional important factors behind low and unstable coffee prices include weather shocks and financial speculation in the international commodities market. Furthermore, farmers cannot control their own collective supply response to price changes, due to large numbers, poor infrastructure, and lack of power to influence the policymaking process.

Fluctuations in the real exchange rate are also part of the story of low and unstable producer incomes; a weakening of the domestic real exchange rate will bring

about a lowering of the purchasing power embodied in a given quantity of exported coffee, which may not be compensated by a larger volume of exports. Since supply of coffee is inelastic in the short run, this outcome will almost certainly lower the real incomes of producers. Dependence on imports for consumption goods, as well as farm equipment and basic technologies, makes this problem worse. Disentangling the abovementioned effects to come up with a unified theory of coffee prices is very difficult; the strength of the effects is likely to differ across countries, regions, and even individual farms within a given region that may face differing unit costs of production due to remoteness from markets, soil quality, microclimate, family size, and other factors.

In conclusion, the only generalizations we can make with confidence about coffee production globally are the following: first, it is historically and structurally diverse in production and exchange, and second, the majority of direct producers of coffee throughout history have been poor. Diversity of production structures entails not only heterogeneous patterns of landownership and labor control, but also heterogeneous ecological constraints. Diversity of exchange structures implies heterogeneous local and regional market structures. Market concentration in the trading and roasting segments of the value chain is the only unifying factor in this vast and complex market. In regions dominated by small-scale coffee farming in which the “merchant solution” prevails, it is likely that the exploitation of smallholders by large traders is a quantitatively more important determinant of unequal incomes along the supply chain than the exploitation of seasonal laborers by the smallholders. The paucity of detailed farm-level and regional data on coffee production and trade make it impossible to test this proposition systematically; it stands as a hypothesis that awaits support or falsification. In the

meantime, fair trade arrangements such as FLO certification stand as potentially welfare-enhancing market interventions, even if such interventions are insufficient to achieve broad objectives of rural development.

2.5.3. Institutional and Behavioral Perspectives

The proliferation of recent economic research on behavior and institutions offers the most promising theoretical framework within which to examine the fair trade movement and its initiatives. Several key concepts from this literature shed particular light on the movement and its issues: social preferences, coordination failures, and common-pool resources.

Fair trade consumers and committed ethical trading and roasting companies exhibit *social preferences* when they purchase a product at a price that exceeds the market clearing level. Social preferences entail that individuals take account of the impact of their actions on others; these impacts enter into the individual's assessment of her own welfare, or the individual's utility function. Social preferences have been demonstrated in numerous experimental games played in the laboratory, in which subjects reward their counterparts for pro-social behaviors and punish them for anti-social ones. Fehr and Fischbacher (2002) provide a seminal study of social preferences and their impact on market outcomes.

Coordination failures refer to situations in which inefficient or socially suboptimal outcomes arise because the participants in the situation are unable to organize institutions to attain optimality.¹⁰ Formal economic studies use the concept of Pareto optimality to define the benchmark against which coordination failures are detected.

¹⁰ I use the narrow definition of coordination failure, which assumes that a social (or Pareto) optimum exists but cannot be reached. A broad definition of coordination failure includes situations in which no social (Pareto) optimum exists.

However, one may define coordination failures without reference to the notion of optimality. Coordination failures may exist in a transaction whenever there is a feasible outcome that unambiguously makes all parties to the transaction at least as well off, but cannot be reached due to lack of organized institutions. This outcome need not be optimal; it need merely be superior to the status quo. In formal (game-theoretic) modeling, coordination failures often entail multiple equilibria.

Examination of the structure of the coffee market suggests the presence of coordination failures. Comparison of the conventional and specialty coffee markets reveal the presence of multiple equilibria along the dimensions of price and quality in the production and sale of coffee. The conventional coffee market exhibits a low-quality, low-price equilibrium. Farmers do not cultivate or harvest their product with care; traders pay the lowest possible price for the output. The traders make high profits, but the farmers remain poor. The specialty coffee market, and increasingly the certified coffee market, exhibits a high-quality, high-price equilibrium. Farmers take great care to cultivate and harvest a product of superior quality, and traders - as well as consumers - pay prices that reflect that quality. Farmers move away from poverty, while traders continue to make high profits. Yet, due to unequal asset ownership and market power, the status quo within specialty coffee is clearly socially suboptimal as well: small-scale specialty coffee growers often remain below the poverty line.

The concept of *common-pool resources* (CPR) clearly applies to the process of production and marketing of fair trade coffee as well. The common-pool resource concept usually describes a natural resource held in common by a well-defined group of individuals or households (Ostrom 1990). However, it can be extended to describe a set

of physical or intangible assets, as well. Fair trade producers and their allies act collectively to create and maintain cooperatives consisting of commonly held assets, which must be properly managed and maintained. These assets include storage and transport facilities, processing and quality control equipment, and marketing infrastructure. They also include intangible assets such as cultivation expertise, governance structures, and educational programs. In order to maintain these assets successfully, collective action problems must be solved, including the attempt to free-ride on the efforts of others. Farmers must invest extra time and energy in attending governance meetings and technical trainings, and they must sacrifice a portion of their income to maintain the cooperative's physical and intangible asset base. In return for maintaining the assets successfully, the producers receive the benefit of a higher output price under the FLO standards, and the ongoing benefits of membership in the organization. Holmberg (2011) provides an important study examining coffee cooperatives through the lens of the commons.

In developing certification systems such as FLO, the fair trade movement has clearly developed a new economic institution that draws upon consumers' social preferences to solve coordination failures in the coffee market, while rewarding coffee growers for participating in common-pool resource management systems. The institutional and behavioral economic paradigms call attention to these key features of the fair trade movement and FLO certification system in ways that neither the neoclassical nor the Marxian paradigms are capable of addressing.

2.6. The Impact of Fair Trade: A Review of the Evidence

The available evidence indicates that the FLO system has played an important role in providing security of income and livelihood to these producers, though it remains highly limited in its capacity to secure broad-based regional rural development. In this section, I summarize the impact of participation in fair trade along the following seven dimensions: income, capabilities/functionings, household food security, household market access, on-farm biodiversity, community spillover benefits, and women's empowerment.

2.6.1. Income

Chris Bacon (2004), in his survey of 228 Nicaraguan coffee farmers, found that the average farm gate price gained by farmers that sold to the fair trade (FLO-certified) market through export cooperatives (\$0.84/lb) was over twice the price gained by farmers who sold through local middlemen (\$0.37/lb). The farmgate price is considerably below the regional Fair Trade minimum of \$1.26: the difference is absorbed by the administrative and equipment costs of the cooperative, discussed above. Perez-Grovas and Cervantes (2002), in their study of Chiapas, Mexico's Unión Majomut cooperative, found that the cooperative paid prices anywhere from two to three times higher (12-18 pesos/kg) than the conventional buyers (6 pesos/kg). Arnould, Plastina and Ball (2009), in their cross-sectional analysis of coffee growers in Peru, Nicaragua, and Guatemala, found that producers participating in fair trade schemes reaped statistically significantly higher prices than non-participating producers. Becchetti and Costantino (2006), in their cross-sectional analysis of Kenyan fruit and herb growers, found that growers participating in fair trade, through a local association called Meru Herbs, were more satisfied with the prices they received for their products than growers who did not

participate, controlling for a large number of household characteristics. These prices were on average higher and less volatile than those received by growers who did not participate in the association. The growers affiliated with Meru Herbs also reported higher levels of overall life satisfaction, as well as higher levels of satisfaction with total household income. Finally, the Meru Herbs farmers indicated a lower *desired* household income than their unaffiliated counterparts, suggesting that these farmers were receiving non-monetary benefits from affiliation with the organization that made increased household spending unnecessary.

The above results indicate that participation in fair trade arrangements exerts a direct positive effect on a farm household's income, output price, price stability, and overall material life satisfaction or happiness. The next section looks at non-monetary benefits from participation in fair trade, which I explain through the capabilities approach.

2.6.2. Capabilities and Functionings

Participation in the FLO certification scheme has been shown to benefit producers along dimensions beyond those of income. The capabilities approach to development, articulated by Sen (1985, 1988, 1993) and Nussbaum (2003, 2004), and recently reviewed by Robeyns (2005), provides an effective framework for defining and assessing non-monetary benefits from various public policies, civil society arrangements, or development initiatives.¹¹ The capabilities approach evaluates development alternatives in terms of the expansion of people's opportunities to engage in desirable actions and states of being. These opportunities are called *capabilities*, and the chosen actions and

¹¹ The capabilities approach can apply to the evaluation of living conditions in industrialized as well as developing countries.

states of being are known as *functionings*. Examining the impact of participation in fair trade arrangements, including FLO and beyond, one can identify the potential for an expansion of capabilities and increase in functionings. Increased skill in coffee cultivation and processing (action), opportunity to participate in democratic deliberation and decision-making (action), increased access to information about market conditions (state of being), and increased access to credit (state of being) are four such functionings that flow directly to coffee growers from participation in fair trade schemes through such schemes' support for cooperatives. In addition, more basic functionings such as access to adequate nutrition, physical and mental health, and educational attainment may be positively affected by participation in fair trade.

The case study literature confirms the positive impact of fair trade participation on the enhancement of the above-mentioned functionings. Vanderhoff Boersma (2002) argued that the “apprenticeship” in production and marketing that fair trade participation provides positively affected the growers' well-being.¹² Jean Walsh (2004) examined the Peruvian co-op CEPICAFE in depth, and concluded that many of its members view the increased quality of their coffee as playing a more important role in increasing their incomes than participation in Fair Trade market channels. She also found that members place great value on the non-monetary benefits of participation in a co-operative, such as technical assistance and access to credit, and often cite these benefits as more important than higher prices.

Empirical evidence from econometric analyses generally support the case study findings. These studies indicate support for the positive direct and indirect impact of fair

¹² Vanderhoff Boersma is co-founder and advisor for Oaxaca's UCIRI cooperative, suppliers of the world's first container of fair trade certified coffee.

trade participation on a variety of functionings, including land productivity, education, health and nutritional intake. Arnould, Plastina and Ball (2009) found in their cross-country, cross-sectional study of coffee growers that participation in fair trade led to a higher level of land productivity measured in terms of total coffee volume harvested, providing support for the hypothesis that the certification arrangement provides growers with access to training and technical assistance that would be otherwise unavailable. Becchetti and Costantino (2006) found that the number of years a household had participated in Meru Herbs significantly positively affected its likelihood of receiving technical assistance.

In studying educational outcomes, Arnould *et al.* (2009) found that fair trade participation affected total years of educational attainment of children ages 6-13, though only indirectly through its effect on higher income. However, fair trade participation did directly increase the probability that a child would be *currently* attending school during the survey period. These findings suggest that fair trade participation may lead directly in the long term to increased educational attainment for coffee growers' children, and indirectly in the short term through its effect on the growers' incomes.

Turning to the question of health and nutrition, the findings are similar. Arnould *et al.* (2009) found that although participation in fair trade at the time of the survey did not positively affect health (measured through a composite health index), long-term participation in fair trade (at least six years) positively and statistically significantly affected health status. In addition, both immediate and long-term fair trade participation positively and statistically significantly affected the probability of receiving medical treatment when needed.

The results of Becchetti and Costantino (2006) further bolster the hypothesis that participation in fair trade expands capabilities and increases functionings. The authors found that among the Kenyan farmers, participation in fair trade was associated with lower infant mortality, as well as higher levels of nutrition.

The above results provide strong support for the hypothesis that fair trade participation expands coffee growers' capabilities. The case study literature and the formal empirical analyses reach largely the same conclusions. The impossibility of random assignment-based studies in this case, however, make the assignment of causality difficult. Farmers self-select into fair trade participation, and measuring the characteristics of all farmers before the selection occurred is impossible, given the lack of available *ex ante* data.

2.6.3. Household Food Security

The available evidence (Vanderhoff 2002, Jaffee 2007) suggests that participation in fair trade arrangements positively affects household food security, by providing households with more income to purchase food while allowing them to retain their existing subsistence plots. The Food and Agriculture Organization (FAO) of the United Nations defines food security as a state of the world in which "all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 1996, quoted in Jaffee 2007). Food security has been studied in two contexts: the national context, in which a nation's ability to ensure adequate nutrition for all of its people reliably is analyzed, and the household context, in which the reliability of a household's access to food is examined. The available studies indicate that participation in fair trade positively

affects the food security of the household.

Jaffee (2007) provides a careful study of the impact of fair trade participation on household food access. In the face of rising food prices in many rural regions, including the coffee-growing regions of Mexico, household food security may be attained through two channels: higher income and subsistence production. Subsistence production also serves as a safety net for coffee growers during times of falling incomes due to falling coffee prices. Caught between the scissor blades of rising prices for purchased food and falling prices for marketed output, coffee growers in Mexico have exhibited a trend towards *re-peasantization* (*recampesinización*) in order to attain food security. Participation in fair trade has allowed some of these households to retain purchasing power to buy food without sacrificing traditional subsistence production patterns (known as *milpa*). Others have been able to find work as wage laborers. For the remainder, the *milpa* is the only available safety net.

In a cross-sectional analysis of two Oaxacan communities, Jaffee (2007) finds that fair trade participating coffee growers exhibit higher dependence on purchased food, as well as higher self-reported household food security, than the non-participating (conventional) growers. Thus, households attained increased food security unambiguously through higher purchasing power. While the majority of conventional growers (66.7%) had expanded their *milpa* over the last five years, the majority of fair trade growers (56%) had retained the same size *milpa*. While 72% of conventional producers reported relying on *milpa* and home garden agriculture and horticulture for over half of household food consumption, only 57.7% of fair trade producers did so. However, fair trade producers' retention of the *status quo* in subsistence production was

accompanied by higher total food consumption and nutritional diversity than the conventional counterparts. Fair trade producers' reported frequency of meat, milk, and cheese was between 1.9 and 3.05 times greater than that of conventional producers. While fair trade producers spent absolutely more on purchased food than their conventional counterparts (6,886 vs. 5,507 pesos/year), this total represented a much smaller proportion of the total household budget (40.9% vs. 76.2%). Finally, while 68% of all fair trade producers reported food as "always adequate for the entire family," only 44% of conventional producers did so. Notably, fair trade participation was still insufficient to ensure full food adequacy for all participating households.

Though the chain of causation from fair trade to food security is not made explicit by the cross-sectional analysis, the channel through which fair trade households experience higher food security – higher income – suggests that participation in fair trade arrangements, and the higher prices those arrangements bring, exerts an independent, positive causal effect on household food security. In some cases, the higher income from fair trade sales may also affect food security indirectly, by allowing farmers to invest in crop diversification. Vanderhoff (2002) argues, from his observation of the UCIRI coffee growers, that the increased income from selling coffee through fair trade channels has allowed producers to diversify their sources of income into other foods and farm products, decreasing their livelihood risk.

2.6.4. Market Access

Market access is frequently cited as a key benefit of participation in fair trade arrangements. Forming relationships with buyers who communicate the needs of consumers, reward quality, and are willing to assist cooperatives in meeting their

developmental objectives has helped the cooperatives develop expertise in production and marketing that would have been impossible to acquire through conventional channels. For UCIRI, the “mutual apprenticeship” in marketing and organic certification is the primary benefit of the relationship between the cooperative and the fair trade buyer (Vanderhoff Boersma 2002). Fair trade participation also sends a credible signal to the international market that a cooperative is a reliable business partner. The reputation effects of membership on the FLO registry – proof that a group of farmers was able to undergo a rigorous application and auditing process – increases market access further (Nigh 2002). Finally, evidence suggests that the support for cooperatives attained through participation in fair trade may not only enhance coffee quality, but also democratic participation and civic culture.

2.6.5. Biodiversity and Forest Conservation

Evidence on the relationship between fair trade arrangements and ecology suggests that participation in the system may play an important role in maintaining biodiversity and stemming the tide of deforestation. The traditional shade-grown coffee growing methods protected and rewarded by fair trade certification stand in sharp contrast to the sun-grown, chemically intensive and mechanized production and processing methods prevalent on large coffee plantations. As coffee prices have plummeted, deforestation in rural regions of Oaxaca, Mexico, has accelerated: growers have sold plots to cattle ranchers, used the land to grow drug crops, clear-cut the plots for subsistence, or simply emigrated, abandoning the land to whomever might use it profitably. The traditional Mexican forests provide numerous environmental services, such as watershed protection and regulation of air quality and temperature. The use of

shade-grown coffee plots as a refuge for rare and endangered migratory bird species is well known and has provided a major impetus for conservation (Perfecto et al, 2005). The coffee crisis, and the environmental destruction that has resulted, has demonstrated the importance of traditional cultivation methods to the protection of forests. Calo and Wise (2005) argue that the low prices faced by coffee growers represent “the failure of the market to recognize and reward the multiple functions of the peasant coffee economy, including ecosystem and social services.”

Fair trade arrangements can thus be seen as an effort to internalize the positive externalities – both environmental and social - that traditional (also known as “natural” or “passive organic”), certified organic, and other forms of environmentally friendly coffee production provide. A co-founder of the UCIRI cooperative, Jesuit priest Franz Vanderhoff, echoes this argument when he states: “The social and environmental costs of production should be expressed in the price of the (product).” (Vanderhoff 2004: 25) Available evidence indicates that fair trade participation has led to increased coffee cultivation and a lower rate of abandonment of coffee plots. Jaffee (2007), in his survey of coffee producers in the Rincón de Ixtlán, finds that a larger percentage of conventional coffee producers planned to either abandon or cut down their coffee parcels than their fair trade counterparts (13.7% vs. 4% respectively). Meanwhile, a much larger portion of fair trade than conventional producers planned to plant more coffee in the future (80% vs. 54.5%). The preference of fair trade buyers for double-certified (organic) coffee has led to increased adoption of organic certified production techniques among producers.

The increased household labor burden involved in certified organic production, combined with the Western cultural bias that runs through the FLO environmental

standards, entail that the environmental practices mandated by certifications deserve critical scrutiny rather than uncritical acceptance. Evidence from ecological studies of biodiversity in Chiapas suggest that in order to fully reward coffee producers for conservation of biodiversity in their fields, the size of the price premium should be much larger (Perfecto et al. 2005). The principle of rewarding producers for adoption of environmentally friendly cultivation practices stands as a benefit of the certification system, albeit one that deserves further reform.

2.6.6. Community Spillovers

Economic theory suggests that participating in fair trade may increase incomes in coffee-growing communities as a whole, even for those growers who do not participate in cooperatives. Milford (2004) argues that fair trade can boost local market prices through stimulating increased local and regional competition. In agricultural purchasing markets with imperfect competition, cooperatives offering higher prices act as a “competitive yardstick” that can raise the prices paid by the large export firms. Fair trade thus may act as a pro-competitive market reform by supporting cooperatives, inducing spillover effects even to producers with no access to these market channels. Case study evidence from Chiapas (Milford 2004) and Bolivia (Tendler 1988) provides support for this hypothesis. I discuss this hypothesis at greater length in section 4.5.

2.6.7. Women’s Empowerment

While the agenda of women’s empowerment is not specifically part of FLO’s mandate, it has become an important issue for many individual Fair Trade companies. Ronchi (2002) finds that awareness of women’s issues by producers’ organizations has occurred primarily at the second level of co-operatives, or the consortium level. The

consortium she studies, Coocafe in Costa Rica, provides an affirmative action program for women as part of their organizational and technical education service. However, women only make up an average of 20% of the membership of Coocafe's nine affiliated co-ops. In addition, many of these women are members in name only, with the husband controlling both votes in the assembly. The co-ops do not provide child care services during assemblies, and children are not permitted to attend the meetings. This situation leaves the women at home to provide child care services. The one major exception to this rule that she finds is in the Coop Santa Elena, which includes artisans as well as coffee producers. The majority of artisans are women, and they play an active role in governance.

Nevertheless, there is evidence that women have made significant gains elsewhere in the world of fair trade coffee. For example, women have been among the movement's key leaders. The Peruvian co-op CECANOR contains a large percentage of female cultivators, who have begun producing their own brand, Café Femenino. The Nicaraguan co-op SOPPEXCCA includes an affiliated women's organization that produces an award-winning variety, Las Hermanas, available at the gourmet roaster Peet's Coffee. Women have successfully managed some of the leading cooperatives in the system, including Nicaragua's PRODECOOP and Peru's Pangoa. Women's access to and control over agricultural land has increased over time within Mesoamerican coffee cooperatives such as CEPCO, though some of these increases have resulted from male labor migration and a resulting feminization of agriculture (Lyon et al. 2010). Declines in inflation-adjusted fair trade and organic coffee prices, and increased labor requirements for certification, have eroded some of these gains.

2.7. Limitations of the FLO Certification Model

In this section, I discuss five key limitations to the FLO certification model: limited producers' access and bureaucratic barriers to entry, vulnerability in times of high prices, lack of producer representation in certification bodies, migration from rural communities, and cultural bias in the FLO standards.

2.7.1. Access to Certification

Access to the Fair Trade certified market is one of the most pressing problems reported in the research. As described in section 2.3, producer organizations wishing to take part in the FLO system must subject themselves to a lengthy and expensive inspection and certification process, which grants them a much-coveted place on the FLO registry. In the early days of Fair Trade, producers were not required to pay the costs of certification, but this policy was changed to require producer payment in 2004. During that year, FLO sought to acquire accreditation under the International Standards Organization (ISO), which required a clear separation of the certifying body from the organizations being certified. Since the FLO board of directors is made up of representatives from producers, food processors, and retailers, the existing governance structure was inadequate. As a result, FLO spun off its certification agency into an independent company, FLO-Cert (Renard 2005). FLO-Cert began charging producers an initial certification fee and yearly membership dues equivalent to 0.45% of the FOB value of the previous year's Fair Trade sales (Calo and Wise 2005). Weber (2006) reports certification costs of an average \$3,200 US per organization for a sample of seven Peruvian coffee co-ops.

Co-ops who wish to obtain FLO certification have thus had to depend entirely on outside resources, such as loans or grants, to cover the costs (Weber 2006: 16-19). While grants to financially ailing cooperatives unable to meet these fees have been established, they have been insufficient to meet producer demand for certification. The development of certification fees represents a new obstacle for producers' organizations wishing to enter the Fair Trade market. The waiting list for the FLO registry is very long: Weber (2006) reports that the Peruvian co-op APROECO faced 280 applicant co-operatives ahead of it when it applied for FLO registration in 2001. That list has undoubtedly grown even longer in the last five years. Analyzing the experience of seven co-operatives, Weber shows that the co-operatives with higher levels of income, external funding, and social connections to buyers and development agencies enjoy greater participation in the Fair Trade system. Indeed, in 2002 FLO began requiring producers to provide a letter of intent from a buyer as a prerequisite for admittance to the registry, which has restricted access further (Weber 2006: 6).

2.7.2. High Market Prices

The second important limitation of the Fair Trade market is its vulnerability during times of high prices. The manager of ADISA, a Peruvian cooperative located in San Martin near Oro Verde, reported: "an increase in local coffee prices harms the association because it cannot collect the coffee necessary to honor its contracts" (Weber 2005: 17). When conventional market prices are low, the premium offered by the FLO minimum price is large; as a result, producers flock to the co-operative and the supply of coffees available from FLO-registered co-operatives surges. But when conventional prices rise to levels close to the FLO minimum, the premium offered by the price floor

shrinks. The requirements of co-op membership often begin to seem onerous to the members. Members may begin to sell their coffee to intermediaries, and default on their shipments to the co-operative, which can lead the co-operative to default on its contracts.

Until 2007, the Fair Trade social premium was \$0.05 above the higher of the Fair Trade minimum or the international market price. However, during times of high world coffee prices, the additional five cents was frequently not enough to induce the farmer to contribute coffee to the co-operative. Other certification systems, based entirely on premiums and without minimum prices, out-competed the FLO system during these periods. Bacon (2006) found that when prices for green arabica coffee rose above \$1.20 / lb on the New York market, the FLO system was out-competed by virtually all its major competitor labels, including Rainforest Alliance, Utz Kapeh, and even Starbucks' CAFE Practices. In response to this finding, in 2007 FLO raised its social premium to \$0.10, and its organic premium from \$0.15 to \$0.20. Whereas the minimum price paid to a cooperative for a pound of Fair Trade certified organic coffee was formerly \$1.41, it is now \$1.51. This increase is, unfortunately, not enough to compensate for the erosion of the purchasing power of the minimum price due to inflation.

2.7.3. Producer Representation

The lack of producer representation in governance, relative to other stakeholder groups, is a third limitation of the FLO system. Producers have long complained about their relative lack of input into the process of governing FLO and maintaining its certification standards. Until 2003, there were no producer representatives on the FLO Board of Directors. Now there are four producer representatives, as well as seven liaison officials based in producer countries to support the co-operatives. Nevertheless,

producers and their representatives remain in many ways disconnected from FLO's decision-making operations. Perez-Grovas and Cervantes cite a "lack of clarity within the structure of FLO that causes uncertainty as to how decisions are made, who participates in the different levels of the organization and who should be consulted to help solve different problems" (Perez-Grovas and Cervantes 2002: 22). Franz Vanderhoff Boersma concurs: "There is a pyramid decision-making structure, where the top often does not communicate with the base." (Vanderhoff Boersma 2002: 20)

2.7.4. Migration

The fourth key limitation of the FLO system is its relative lack of ability to fortify communities disintegrating under the pressures of migration. Despite the claims of some observers, evidence indicates that FLO participation has been unable to stop the flow of migrants from coffee-growing communities. Aranda and Morales (2002) concluded, based on interviews and participant observation, that participation in fair trade had partially stemmed the flow of out-migration from coffee-growing communities in Oaxaca. Yet all systematic evidence points in the opposite direction. Lewis (2005) documents a positive relationship between low coffee prices and increased out-migration from Oaxaca. However, in her empirical study of the Oaxacan community of San Juan Cabeza del Río, Lewis (2005) finds FLO participation to be correlated with a *higher* degree of out-migration than non-participation. Her data show that households that are members of FLO-registered cooperatives send more members, and began sending members earlier, than non-member households. Jaffee (2007), examining two other coffee communities in Oaxaca, Yagavila and Teotlasco, corroborates Lewis's findings: FLO-participating households had, on average, more migrants – both domestic and

international - and received more remittances than their conventional neighbors. This pattern may in fact stem from the increased incomes brought about by FLO certified sales: rather than stem the tide of migrants, the increased income would allow households the means to send migrants to the United States or to higher-wage regions within Mexico. Young people may also migrate in order to attend high school or (in some cases) college.

The relationship between migration and labor is complex. High levels of migration lead to labor shortages, pushing up local wages and eroding much of the income gains from FLO certified sales (Lewis 2005, Jaffee 2007). These higher wages can also be conceived as a spillover benefit from FLO certified producers' increased incomes. However, the communities bear the costs of out-migration in other important ways: most notably, the erosion of their traditional structures. With significant out-migration, fewer adults are available to perform communal administrative tasks and engage in communal work parties (Jaffee 2007). Migration is thus an example of the way in which the pursuit of individual benefit can erode a community's structure. For additional examples of this process, and the role that modern economic theory plays within it, see Marglin (2008).

2.7.5. Cultural Bias

Studies of the impact of the FLO system in producer communities reveal a bias in the process of standards setting and certification towards a Western worldview, making indigenous agricultural practices invisible. The standards are based on practices of agronomy, land management and conservation developed in Western Europe and North America, which are often inappropriate for the local cultural context. Apffel-Marglin (2007) documents clearly the disconnect between the conceptual categories used by the

FLO inspectors and those used by indigenous coffee producers in the Lamas region of the northern Peruvian Amazon. In the same paper, she documents the existence of indigenous analogues to Western agronomic practices that Peruvian agronomy experts systematically ignore or downplay in importance. The FLO standards and the dominant schools of Peruvian agronomy work together to obscure indigenous agricultural practices, including indigenous approaches to the cultivation of coffee.

This contradiction between bureaucrat-experts and farmers is an example of what Marglin (1996) calls the conflict between *episteme* vs. *techne*. *Episteme* refers to systematic knowledge that can be deduced logically from axioms; *techne* refers to experiential knowledge that can only be learned through practice. The integrative approach to social sciences called *systems of knowledge*, pioneered by Apffel-Marglin and Marglin (1990, 1996), and their colleagues, identifies the domination of *episteme* over *techne* as a byproduct of the domination of Western over non-Western modes of thought and practice. The development and deployment of the FLO standards to cover farming practices in the global South can thus be seen as an example of Western ideological hegemony.

The contradiction discussed above can also be expressed in individualistic (Jeffersonian) terms, without reference to exploitation, colonialism or Western hegemony. Due to the unique qualities of soil, climate, and terrain inherent in each plot of land, bureaucratic standardization of agricultural practices is effectively impossible, and the attempt to do so risks undermining the resilience and dynamism of agriculture. Wendell Berry (1984, quoted in Marglin 1996: 220) explains the matter succinctly as follows:

The good farmer ... must be master of many possible solutions, one of which he must choose under pressure and apply with skill in the right place at the right time... textbooks and expert advice... can be useful to (the farmer) only by means a translation... from the abstract to the particular. For the good farmer... the place where knowledge is applied is minutely particular, not *a* farm but *this* farm, *my* farm, the only place exactly like itself in all the world.

The development and deployment of environmental and agronomic standards by certification agencies such as FLO were created with the intent to discourage chemical-intensive agricultural practices on small coffee farms, thus supporting artisanal, ecological methods of production. One of the ironies of the FLO system is its tendency to substitute for and oppose the local versions of these very artisanal farming practices.

2.8. Tensions Within the Fair Trade System

This section briefly outlines the tensions within the day-to-day operations of FLO certification, drawing upon the expanding case study literature for key data points and arguments. These tensions have given rise to considerable controversy among the system's participants. They occur along three primary axes: (1) between volume traded and adherence to the original mission or values; (2) between international legitimacy and bureaucratic complexity; and (3) between the provision of immediate benefits and the pursuit of long-term systemic change.

2.8.1. Volume vs. Values

Inherent in the FLO certification process is the tension between maximizing volume certified through encouraging the participation of transnational corporations (TNCs), and remaining mission-driven through support for alternative trading organizations (ATOs) that devote themselves exclusively to fair trade on principle. This

tension has been dubbed, at a recent conference, the “volume vs. values” problem, and is debated extensively among fair trade practitioners.

At the root of the volume vs. values debate there exists a crucial incentive problem inherent in the provision of certification services. Certifiers such as Fair Trade USA (formerly TransFair USA) are dependent upon certification fees for their everyday operations. Part of the mission of such organizations is to expand the scope of their operations, which include high fixed and variable costs in office space, equipment, and trained personnel. Expansion of operations to the certification of new products entails, moreover, a large upfront investment in research into production processes and production costs, and development of standards that are feasible to implement and reflect accurately the costs of production. Additional project funding for certification projects from foundations or other granting agencies is volatile, scarce, and costly to acquire. Hence, there exist strong pressures for certifiers to maximize total certification revenues net of costs.

The certifiers’ maximization of total net revenues entails lowering the total cost of certification to the trading firms who seek to be certified, below the level that would maximize the total benefit per producer or organization seeking to receive price premiums via the certification process. Total certification costs entail not only the direct fees charged to the trading firms, but the strength of the standards. Standards include not only the minimum export price, but also the extra benefits that the trading firms must provide the producers who supply them, net of the retail price premiums that the firms can then charge ethically conscious consumers. Hence, firms have strong incentives to lobby certifiers to decrease these extra benefits, as well as lower the direct certification

fees. Since firms are free not to certify their product, a tension arises between the certifier's mandate to continue to deliver benefits to existing producer beneficiaries, and the certifier's objective of expanding its operations. Producers possess far less capacity to lobby certifiers than do the trading firms. Consumers, likewise, are relatively scarce in lobbying power. Nonetheless, producer and consumer initiatives can and do arise to oppose the corporations' attempts to lower the standards. In the realm of minimum price setting, the result has been a stalemate: FLO has been unable to take any action on adjusting its floor price for key crops such as coffee. Unless FLO and its national initiatives are willing either to sacrifice growth in certification volumes, or to allow their credibility among activists to erode still further, this stalemate is likely to persist.

2.8.2. Legitimacy vs. Accessibility

The second major point of tension inherent in the certification process is as follows: the international legitimacy of the certification process, particularly its conformity with accepted multilateral standards-setting process, also entails the increasing complexity and bureaucratization of this process, which becomes increasingly alien from producers' experiences and thus increasingly difficult for producers to understand. I call this tension the "legitimacy vs. accessibility" problem, and it has been largely under-recognized among practitioners of fair trade.

Two interrelated factors have contributed to the increased complexity and bureaucratization of the FLO standards: the quest for international legitimacy and the need to cover rising costs under conditions of intense scrutiny from potential or actual outside benefactors. FLO's objective of garnering legitimacy in international standards-setting processes is exemplified by the spinning-off of FLO-Cert into an independent

organization to fulfill the requirements of the ISO (International Organization of Standardization) Standard 65 (ISO-65), which regulates the structure of third-party certifiers of products. ISO-65 mandates that organizations that verify compliance with certification standards must be operationally independent from organizations that design and amend those standards. Attaining the objective of international legitimacy provides FLO with greater scope for action within the legal and political systems that structure and regulate international commerce.

The second factor, the need to cover rising costs, explains FLO's decision to charge producer organizations fees for the service of certification. Another way of covering rising costs has been to attract donations or inexpensive financing from outside agencies. FLO's quest to seek outside support has brought it under intensified scrutiny from powerful foundations and agencies, which has created pressure to make the standards more rigorous. This support has been forthcoming: in 2009, FLO attracted €5.97 million in restricted and unrestricted grants, a dramatic increase over the 2008 total of €2.732 million. The unrestricted component of these grants increased far more rapidly than the total grant funds: from €624,000 in 2008 to €2.358 million in 2009. However, FLO's need to attract funds has entailed an upgrading of its operations to comply with the objectives and preferences of the granting agencies. As a result of these developments, the entire process of FLO certification has become more complex as the organization has expanded.

Making the certification process more complex has had three principal effects on producers. First, it increases the labor time necessary for compliance with certification standards, which decreases the number of producers willing and able to participate in

these standards. Second, it decreases producers' ability to influence the standards-setting process, as producers find it increasingly difficult to make sense of the process. Third and finally, the more specific and uniform the standards, the more they are likely to conflict with or substitute for existing local practices that operationalize similar or analogous objectives in a different way (see section 2.8.5 above). This effect is most clearly seen in the FLO environmental standards, which often possess local analogues that fit more neatly into indigenous worldviews or *cosmovisions* (Apffel-Marglin and PRATEC 1998). As a result, participating producers may become alienated from the process and view it, justifiably, as another form of either (neo) colonial domination or capitalist exploitation or both.

2.8.3. Immediate Benefits vs. Systemic Change

The final tension I wish to examine lies between the pragmatic, everyday struggle to bring immediate material and social benefits to impoverished producers, and the long-term vision of eliminating the unequal trade conditions that made such impoverishment possible. In the short run, the resources available to the fair trade movement are fixed in supply. Movement participants, such as advocates, certifiers, producer representatives, mission-oriented traders, and researchers, face trade-offs in the allocation of these resources, between immediate provisioning of benefits to producers on the one hand, and investment in long-term social change and movement-building strategies on the other. A few activities, such as awareness-raising events to increase consumer demand for fair trade products, fall into both categories, but most of the activities undertaken by most of the movement participants fall under one rubric or the other. For example, money spent on the provision of technical assistance services to producers – not to mention health

care, education, or family budget support – cannot simultaneously be spent on lobbying (or taking direct action against) governments of the North to lift agricultural subsidies or reform WTO trade rules, let alone craft a fundamentally different approach to world trade. Critics of the fair trade movement often allege that its participants spend an inordinate amount of time on technical, short-term benefit provision - the “shaped advantage” described by Fridell (2008) - rather than long-term social change strategies. In response, movement participants argue that the everyday provision of benefits is a means towards eventual long-term social change.

2.9. Concluding Remarks

The material presented in this chapter reveals that FLO certification is a complex process, with a myriad of positive effects but subject to considerable limitations. The FLO system has pioneered the development of certification as a form of non-state, market-driven governance, but this type of governance is limited in its effectiveness by the disproportionate power of large-scale market actors. The bargaining power of multinational corporations on the one hand, and the economic need of producers on the other, exerts contradictory pressures on the system. The bureaucratic structure of the certification agencies presents producers with complex and alien sets of requirements; the difficulty in meeting these requirements is compounded by the producers’ everyday struggle for subsistence. While the impacts of participation in the certification system have been demonstrably positive for producers, some issues are beyond the system’s capacity to address, most notably migration. Critiques of the system from neoclassical and Marxian perspectives tend to miss some of the key institutional features of the coffee industry, including the production structure of coffee farms. The heterogeneity of

economic, social and cultural institutions among producers and their communities entails that a single set of standards, such as those that FLO maintains, is unlikely to address fully the needs of all its intended beneficiaries. Despite these limitations, the fair trade movement generally, and FLO certification in particular, stands as an important experiment in non-state intervention to transform market structures.

CHAPTER 3

THE COFFEE COMMODITY CHAIN: AN INSTITUTED PROCESS

3.1. Chapter Introduction

This dissertation focuses on coffee, the commodity whose trade has been most affected by the fair trade movement. This chapter will provide a broad overview of the existing global patterns in production, distribution and consumption of coffee; taken together, I refer to these processes as the coffee *commodity chain*. The coffee commodity chain consists of the sum of all transformations and exchanges of the product from the farmer to the consumer. This chapter describes the institutional changes that have altered the coffee commodity chain over the last few decades and show how these changes have impacted the well being of small-scale coffee growers in developing countries. Fair trade, as both a market innovation and a social movement, is best understood within the context of these changes.

Coffee is a unique commodity in a few different senses. It is one of a few tropical commodities produced almost entirely in the global South, and consumed predominantly in the global North. (Tea, cacao, and bananas are three other significant ones.) Hence, the study of coffee can inform our understanding of North-South political and economic relations. Coffee's relatively high value-to-volume ratio establishes it as an ideal cash crop for long distance trade. For many years, it ranked as the world's second most valuable traded commodity, after oil (Finlayson and Zacher 1988); today, the FAO estimates its rank as either fifth or sixth (Topik, Talbot and Samper 2010). Coffee is also one of the few crops with a truly bimodal ownership structure: plantations and smallholders both play significant roles in production.

Coffee's properties as a stimulant have led to deep associations between its consumption and some of the formative episodes of modernity. During the Enlightenment and the republican revolutions of the 18th century, philosophies and political strategies were discussed endlessly in coffee houses. During the industrial revolution, watered-down versions of the brew were pushed upon the proletariat to make them work harder, faster, and longer. (Bates 1997) In the post-industrial "information age," the coffee house has become a primary site of telecommuting. The everyday proximity of coffee to centers of intellectual activity is one possible explanation for coffee's status as the flagship crop of the fair trade movement.

This chapter studies the coffee commodity chain in terms of the core institutions of which it is composed. Anthropologist and economic historian Karl Polanyi described institutions as sets of social activities that sustain the movements of goods and provide coherence, unity and stability to the economic process. Economies, for Polanyi, are always "embedded and enmeshed in institutions, both economic and noneconomic" (Polanyi 1957; 250). Polanyi describes three major structuring principles of economic institutions, which he calls *forms of integration*, and which provide the framework for economic life: reciprocity, redistribution, and exchange. *Reciprocity* refers to voluntary movements of goods or services between symmetrical partners enmeshed in networks of mutual obligations, as in an egalitarian community, or Marx's "primitive communism." *Redistribution* refers to the appropriation of goods by a central authority, and the authority's subsequent distribution of the goods to achieve macro-level social objectives such as bureaucracy, policing, infrastructure, religious hierarchies, and the like. This form of integration is most common under an archaic state such as ancient Egypt or Rome, but

it also exists in the modern state in the form of taxation. *Exchange* refers to voluntary movements of goods within impersonal networks, subject to bargaining over rates of exchange or prices. This latter form of integration dominates the modern market economy.

In this chapter, I approach the study of coffee from the commodity chain perspective, rather than simply studying the coffee *market* where physical stocks of coffee, as well as futures and options, are bought and sold. Market trade, for Polanyi, is made up of “market elements”: a group of suppliers, a group of demanders, a rate of exchange, and a form of competition. Market trade also consists of what Polanyi termed “functional elements”: a physical trading and storage site, and customs and/or laws that govern the operation of the trading process. The coffee commodity chain includes the coffee market, but also the technologies and relations of production and distribution, the social conventions of quality and standards, and the government policies and regulations, as well as private-sector procedures, to manage stocks in the face of chronic fluctuations in supply. In Polanyi’s terminology, economic and noneconomic institutions, market elements and functional elements have all shaped the process of production and distribution of coffee, and most importantly, the distribution of income along the coffee commodity chain.

The coffee commodity chain, alternately called the *value chain* or *supply chain*, contains numerous sites of production, exchange, and regulation. These sites are ordered according to several different *modes of coordination* (Daviron and Ponte 2007). The dominant two modes of coordination of the coffee commodity chain are *market* and *industrial* coordination. In market coordination, agents trade a homogeneous commodity,

making decisions in response to price signals. This process characterizes the spot and futures markets for raw green coffee. In industrial coordination, the quality characteristics of products are evaluated according to third-party norms. This process characterizes the specialty coffee market, in which coffees are point-scored by judges who identify the unique taste characteristics of coffees from particular regions. Specialty coffee firms then order, blend and price coffees based on the ratings of judges.

The central aim of this chapter is to demonstrate the ways in which institutional changes in the coffee market have brought about substantial changes in the distribution of *rents* along the coffee commodity chain. Rents are above-normal profits accruing to economic agents who are endowed with relatively scarce factors of production. The inquiry demonstrates the extent to which power relations have shaped the world coffee industry at all levels. Throughout its evolution, interrelated economic institutions of trade, contracting, firm organization, and quality management have *constituted* the operation of the coffee market. The coffee market simply could not operate without this network of supporting institutions.

Furthermore, noneconomic institutions – particularly international political alliances, treaties, and agreements – have shaped this market in fundamental ways, constraining its operation in some ways and encouraging or stimulating it in others. These international political institutions, policies, and regulations have reflected the power relations at play in the global political economy. The breakdown of the International Coffee Agreement at the end of the 1980s signifies the restoration of the power of the industrial or post-industrial consuming countries, relative to the agrarian or newly industrializing producing countries, in global commodity chains. This restoration follows

the postwar interregnum during which the producer countries were able to make strategic gains, capturing resource- and policy-related rents and hence winning a larger share of the revenue within these commodity chains. These strategic gains occurred as a by-product of the Cold War struggle between the United States and the Soviet Union.

The story of coffee in the twentieth century is intimately related to that of the fair trade movement for more reasons than one. Coffee is currently the flagship crop of the fair trade commodity certification *system*, but it has also been an important crop in previous attempts to create a worldwide fair trading *order* based on negotiated, stabilized prices that reflect costs of production. The prime example of this attempt at structural change was the proposal for the New International Economic Order (NIEO), developed through the Non-Aligned Movement of countries (NAM) in 1973, and subsequently promoted through the United Nations Conference on Trade and Development (UNCTAD).¹³ The NIEO proposed, among other objectives, a set of commodity agreements that would regulate the price of a wide range of raw agricultural and mineral products to ensure, in the words of the proposal, “just and equitable terms of trade” (Prashad 2007). The NIEO proposals failed to win support from the industrialized countries and never became part of United Nations policy.

The recent development of private certifications and standards is thus intelligible only in the context of the historical failure to maintain a regulated multilateral trading order. The achievements of certifications, while noteworthy, are limited by the structure of the trading order within which certifications operate. Hence, an understanding of the trading order, and its development over time, is necessary to grasp fully the role of the

¹³ For an exposition of the historical development of the Non-Aligned Movement of countries, see Prashad (2007).

FLO certification system within it. The remaining sections of this chapter will sketch the outlines of the development of the coffee commodity chain and place this development in global context.

3.2. The Coffee Commodity Chain

In understanding the structure of the global coffee industry, the concept of a *commodity chain* is useful. Bair (2009) defines a commodity chain as “a network of labor and production processes whose end result is a finished commodity.” The concept allows for a level of analysis that encompasses local, national-level, and transnational processes of production and exchange. The study of commodity chains has assumed increasing importance as production processes have become increasingly geographically dispersed across firms, regions and countries.

The defining presentation of commodity chains, Gereffi and Korzeniewicz (1994), calls attention to three dimensions of commodity chains as subjects for analysis: an input-output structure, a geographical structure or territoriality, and a governance structure. Of these three dimensions, the governance structures have received the most attention from the theoretical and case study literature. Governance structures are of three types: producer-driven, buyer-driven, and trader-driven. Producer-driven chains consist of capital-intensive, technologically advanced production processes controlled by large-scale firms. Automobiles are the classic example of a producer-driven commodity chain. Buyer-driven chains, by contrast, consist of production processes in which design, branding and marketing create a larger portion of the value added than direct production. The key firms tend to be buyers of the product in finished or near-finished form from far-flung networks of suppliers. Apparel and shoes are a prime example of this type of chain.

Finally, trader-driven chains, as defined by Gibbon (2001), are characterized by the dominance of international trading and distributing firms, who occupy the central point of markets with large numbers of dispersed suppliers and buyers. Most agricultural products adhere to approximately this kind of structure.

Coffee is generally considered a *buyer-driven* commodity chain. At each link of the chain, buyers wield a measure of market power over sellers. This tendency was mitigated by government regulation during the era of the International Coffee Agreement (ICA), but it has intensified since the ICA's breakdown. Coffee roasters and packagers, the penultimate buyers in the value chain excluding consumers, contain the highest degree of industry concentration of all the links on the coffee commodity chain. Profits in the coffee chain are also most highly concentrated at the roaster level. However, coffee also exhibits some characteristics of a trader-driven chain: international trading firms run a close second in terms of concentration ratios, and traders exert substantial influence over world market prices through their use of futures and options.

In order to understand properly the workings of the FLO certification system, one must contrast it with the non-certified, conventional commodity chain in which it intervenes. The commodity chain for smallholder-grown, conventional coffee can be described as follows. A large group of smallholding coffee farmers sells their product to a smaller group of private intermediaries, for which they are paid a fluctuating price. This price reflects the world market price for raw coffee beans, minus a deduction to cover the expenses of intermediaries and export firms, and ensure intermediaries' incomes and firms' profits. These intermediaries, in turn, sell the product to a smaller group of exporting firms based in the country of origin, and are paid a fixed amount per unit. The

exporting firms sell the product to a highly concentrated group of trading firms, using the world market price as a reference, with positive or negative differentials based on the location of origin. The trading firms sell the product to a small number of very large roasting, blending and packaging firms. The largest roasting firms are part of multiproduct conglomerates, such as Procter & Gamble and Altria (formerly Philip Morris). The roasting firms sell the coffee to retailers, who sell the coffee to consumers. A number of different variants of this system may exist: for example, exporters may either own mills or purchase from millers, who deal with the intermediary buyers; alternatively, state marketing boards may play the function of exporting firms. On the consumer's side, brokers may stand between importing and roasting firms, or may play the role of importers. Distributors may stand between roasters and retailers, or roasters may undertake their own distribution. Some roasters are also integrated with retailers, e.g. Starbucks.

Figure 3.1 displays all of the relationships that characterize the conventional coffee commodity chain, described above. Figure 3.2 displays the FLO-certified coffee commodity chain for the purpose of comparison and contrast. Note that within consuming countries, the supply chain is not very different from the conventional counterpart. However, within producing countries, the cooperative replaces up to three separate links in the supply chain: intermediary, mill, and either private exporter or state marketing board. Smaller cooperatives may, however, make use of an exporting service if they do not have the skills or capital to obtain an export license. In the FLO system, the certifier, based in the consuming country but with offices and staff in the producing

country, audits the cooperative, exporter, importer and roaster in the manner described in Chapter 2.

The summary of the coffee commodity chain given in the above paragraph is extremely simplified. The coffee commodity chain is extraordinarily diverse, in both the historical trajectory of its development and its structure at any point in time. Commercial and production relations in coffee have been diverse at almost every point during the history of the commodity, and moreover have changed profoundly over the course of that history. Relations of production at the farm level have included independent family-based farming, tenant farming, contract labor, wage labor, and slave labor. The class dynamics of coffee production have intersected profoundly with regionally specific patterns of landownership and labor organization. Commercial relations in coffee have been equally diverse, ranging from state marketing boards and state-run auctions to large-scale national or foreign export companies, with a small but significant presence of cooperatives and small- to medium-sized boutique trading companies. To describe fully the various forms of labor control, contracting and exchange in the global coffee commodity chain would take several volumes.

Examined in broad perspective, the development of the global coffee economy can be best understood through the world-systems analysis developed by Wallerstein (1974) and others. World-systems analysis argues that multiple forms of labor control and methods of commercial and exploitation can and do coexist under a single complex system of capital accumulation, dominated by a few powerful and predominantly European economic production, commercial and financial firms and their owners. World-systems analysis is one of the main strands of thinking that has informed the study of the

coffee commodity chain. Roseberry, Gudmundson, and Samper (1995) have compiled and edited a set of historical case studies that examine the political and social context of the development of coffee as a major export crop in Latin America. Coffee's history in Africa and Asia is equally diverse; Topik and Clarence-Smith (2003) provide a global, tri-continental perspective on the history of coffee production and commerce from the sixteenth through the twentieth centuries. All the above studies make use of the world-systems approach.

According to the theory of commodity chains, the place of an economic agent in the chain determines its share of the value of the final product. Two major factors determine the distribution of value along commodity chains: first, market power, and second, the existence and distribution of rents. Market power refers to the degree of concentration that prevails at one link of the commodity chain. Rents, following the work of Kaplinsky (2004), are above-normal profits accruing to economic agents that possess scarce factors of production. Rents arise from barriers to entry, whether natural as in the possession of highest-quality land, technical as in the existence of economies of scale, or created through government policy. Agents in a commodity chain that are capable of creating or exploiting barriers to entry are able to capture rents, and will receive a larger share of the total value created in the chain. Agents in a commodity chain that cannot create or exploit such barriers will not capture rents, and will receive a smaller share of the total value created.

Kaplinsky (2004) divides rents into two categories: endogenous and exogenous. Endogenous rents are rents that are created within the operation of a value chain. He identified five types of such rents: technology, human resource, organization, marketing,

and relational. Within the coffee value chain, technology rents will be created when roasting firms pioneer increasingly efficient processing methods. Human resource rents arise due to the superior ability of roasting and trading firms to make use of sophisticated financial instruments out of reach of the growers (we could also call these *knowledge rents*). Organizational rents arise due to large roasters' adoption of new forms of supply management, which place them at an advantage in comparison to smaller roasters. Marketing rents arise from firms' efforts to brand their products and create consumer loyalty through recognizable images, such as the Colombian growers' association's Juan Valdez, or slogans, such as the memorable Maxwell House adage, "Good to the last drop." Relational rents arise from close coordination between firms at different links of the value chain. For example, in the conventional coffee chain, relational rents have arisen since the 1990s from closer coordination between international trading firms and domestic processing and exporting firms (Daviron and Ponte 2007). The above five rents all arise within the operation of the coffee commodity chain, and can thus be considered endogenous.

Exogenous rents are those that are determined outside the commodity chain. Resource rents, policy rents, infrastructure rents, and financial rents are the four major types of exogenous rent. Resource rents in the coffee value chain arise from the possession of superior land or soil quality; however, a cartel of producers can also bring about an artificially created (and endogenous) resource rent. Policy rents arise from government support to coffee growers, as well as from the government-created export quotas in effect under the ICA. Infrastructure rents arise from superior roads, transport systems, telecommunications, or port facilities, which some countries and regions enjoy.

Financial rents arise from superior access to credit and financial markets: within producing countries, multinational trading firms, who import the coffee from producing to consuming countries, enjoy far superior access to finance than domestic coffee exporting firms. In turn, domestic coffee exporting firms enjoy far superior access to finance than producers.

The institutional changes that transformed the coffee market beginning in 1989 can be viewed through the lens of the distribution of rents. The policy rents enjoyed by the producing countries via the export quota system virtually disappeared with the dissolution of the International Coffee Agreement (ICA) and the formation of a deregulated world market. Relational rents accruing to multinational traders increased during this period, through their closer association with producing-country export firms. Organizational rents accruing to roasters also increased, due to their adoption of supplier-managed inventory (SMI) schemes that allowed them to transfer costs and risks onto other parties in the value chain (Ponte 2005). Financial rents accruing to international traders increased due to the increasing sophistication of financial instruments to manage coffee purchases, including various forms of futures and options contracts. Meanwhile, the struggle between roasters over marketing rents intensified as the market for roasted and ground coffees became increasingly differentiated.

At the producer level, the overall level of benefit from resource, infrastructure, finance and policy rents declined, as the ICA was dismantled and producing-country governments reduced state support for coffee growers. Meanwhile, the distribution of resource rents also became more unequal: differentiation of coffees entailed that some producers were able to access specialty markets that paid differentials or premiums above

the world market price. These favored producers tended to be medium-sized estates with high levels of processing capacity and superior market access via relational contracting. Producers who were unable to access specialty markets saw the returns to their labor plummet. These disfavored producers tended to be smallholding peasant coffee growers with low access to credit, processing capacity, inputs, technical assistance, or markets. Over the course of the post-ICA period, a small but growing number of these smallholders gained access to another form of differentiated market, the market for ethical and/or sustainable coffees. Social and environmental criteria were subsequently codified into certification systems, of which FLO has been one of the most successful.

According to Kaplinsky (2004), Gereffi (1994), and others, producers whose position in value chains disallows them from capturing rents must seek to engage in two processes that may improve their shares of the total value generated by the chain. These processes are known as *upgrading* and *forward integration*. Upgrading refers to the *relatively* rapid innovation of agents in one position along a value chain; in other words, it entails the achievement of a competitive advantage. Not all agents in one position on a value chain can upgrade at the same time; were they to do so, the advantage would be competed away and no rent would emerge. In the coffee commodity chain, the adoption of improved methods of cultivation, post-harvest processing and quality control exemplify producers' upgrading. Not all producers are able to adopt these innovations, nor are all adopters able to deploy them at the same rate. Hence, a rent accrues to the producers who adopt improved cultivation, processing and quality management methods relatively quickly.

Forward integration refers to the appropriation of production processes forward, or downstream, along the value chain. In the coffee commodity chain, the acquisition of advanced processing machinery, quality control laboratories, and export licenses by estates or organized groups of small producers exemplifies forward integration. For smallholder coffee growers, upgrading and forward integration has occurred primarily through the establishment of cooperatives or associations, with subsidies from multilateral agencies, private donors, and consumers via alternative trading networks such as fair trade (FLO) certification.

In this section, I have laid out the basic pattern of the coffee commodity chain or value chain, and explained the distribution of value within it. This pattern has changed over time, as institutions governing the operation of the commodity chain have changed. These changes must be understood within a historical context. Hence, the next section explains briefly the place of coffee in the struggle for economic development in the post-World War II era. In the next section, I show how concerns of development on the one hand, and U.S. hegemony during the Cold War on the other, influenced the distribution of value along the coffee commodity chain. Changes in the global political economy, in turn, led to further changes in this distribution of value, as the increased power of transnational firms vis-a-vis national governments brought about the deregulation of this chain.

3.3. Coffee and the Politics of Development: A Brief History

Coffee has historically been a strategic commodity for developing countries. In the aftermath of Latin American independence, coffee was seen as a niche that the newly formed countries could occupy within a rapidly expanding global economy under the

hegemony of Great Britain. Coffee was also a crop used by Latin American elites to encourage colonization of frontier zones, encroaching upon the territories of indigenous peoples, and hence building and consolidating national states (Roseberry *et al.* 1995).

Coffee's significance as an export crop has also made it a strategic source of foreign exchange. Like other agricultural producers, coffee growers have been "squeezed" by national governments to extract earnings for investment in other sectors. In Brazil under the first Vargas regime or *Estado Novo* (1930-45), the second Vargas regime (1951-4) and the subsequent Kubitschek regime (1956-61), the national monetary agency (SUMOC) manipulated the exchange rate received by coffee producers in order to exact a confiscatory tax on them. These revenues were often invested in the industrial sector as part of Brazil's modernizing development strategy (Bates 1997).

Brazil's coffee exchange rate policy, known as the *confisco cambial* or "exchange rate confiscation," represents a variant of the classic developmental state policy of turning the terms of trade against agriculture in order to finance industrial investment (Mitra 1977). The key difference in the case of coffee is its status as an export crop. In the classic developmental strategy, domestic terms of trade are manipulated to ensure a cheap supply of domestically produced staple crops in order to keep industrial wages low. In the case of coffee, the monetary authority taxes the agricultural exporters by manipulating the exchange rate they receive for their exports, pushing it below the market exchange rate and appropriating the difference. The resulting state revenues are used to purchase imported industrial inputs. The foreign exchange the Brazilian government earned by manipulating the coffee exchange rate underpinned an import-substitution policy by financing imported inputs to industry, including oil and capital equipment. The

confisco cambial was accompanied by protection of domestic import-substituting firms through the licensing of imports.

The usefulness of coffee as a tool for rural development has been severely hampered by price volatility in the world coffee market. Volatility of coffee prices, combined with volatility of yields that arise from weather patterns, has brought about unstable and unpredictable export earnings from the crop. This volatility has worsened since the breakdown of the international agreement to stabilize coffee prices, called the International Coffee Agreement (ICA), in 1989. The ensuing price volatility has made coffee an important case in the world of global commodities, illustrative of the pitfalls of the trend toward market deregulation that has been a hallmark of neoliberal theory and policy. The remainder of this section examines the historical development and dissolution of the ICA, demonstrating the close link between changes in the international balance of power and corresponding shifts in economic policy paradigms.

The ICA, which lasted from 1962 to 1989, was a multilaterally negotiated, international initiative to stabilize the price of coffee. It was a key economic institution of the post-World War II era, and reflected that era's balance of power as well as the contemporary economic concerns of developing countries. In the wake of the broad wave of decolonization that accompanied the end of World War II, newly decolonized countries sought to consolidate and stabilize their national economies. Most of these countries depended on primary commodities for the bulk of their foreign exchange revenues. Commodity price volatility was seen as a principal impediment to stable economic growth. The case of coffee was illustrative of this overall trend, with the additional feature that periodic price spikes, usually due to weather events in major

producing countries, led the industrialized countries that consumed the crop to take a vested interest in stabilizing its price as well.

Instability in coffee prices in the aftermath of World War II thus led both producing and consuming countries to demand a mechanism for price stabilization. In response to a rapid rise in the international coffee price immediately after World War II, the United States government subsidized its own roasting industry to allow retail coffee prices to remain stable. Simultaneously, producers in the leading coffee-growing countries, Colombia and Brazil, expanded their plantings just as additional countries, concentrated in Central America and Africa, entered the coffee market. The African growers focused predominantly on the cheaper *robusta* variety of coffee plant, while the Central and South American growers planted the more expensive *arabica* variety. The result of these additional plantings was a protracted slide in the prices of both coffee varieties, beginning in 1954 and lasting through the end of that decade.

The price decline of the 1950s led to attempts among the leading coffee-producing countries to convene a multinational agreement to restrict exports. However, the agreement that followed (known as the Convenio de Mexico) was largely unsuccessful, owing to the leading producer countries' difficulties in disciplining the free riding of the new entrants. Brazil, as the leading coffee producing country, faced substantial domestic political instability and economic insecurity during this period. Thus, it could not credibly threaten to punish any country that violated the quotas, since such punishment was costly and would entail substantial political and economic risk (Bates 1997). To enforce an export quota agreement, the producer countries needed externally imposed discipline with credible threats of punishment, and the consuming

countries' governments were the only agents in a position to supply that discipline. Thus the ICA evolved as an agreement between producing and consuming countries. The United States, with over 50% of the world's coffee imports, played the role of leading consuming country.

Broadly speaking, the ideological foundation of the ICA rested on two pillars: anticommunism under U.S. hegemony, and the principles of economic development outlined in the Havana Charter (1948). The Havana Charter was an international agreement signed in the aftermath of World War II, which articulated the principles of a world trading order based largely on liberal principles, but with special exceptions for primary commodities. These exceptions were justified by appealing to the long-term tendency for the relative price of primary products to decline, documented and theorized by Prebisch (1950) and the ECLA / CEPAL school of economists working at the United Nations during this time.¹⁴ Thus, the Havana Charter proposed a series of commodity agreements to raise and stabilize the price of primary commodities. While most signatory governments never ratified the Charter, several of the commodity agreements were developed independently. Among these commodities were tin, sugar, and coffee. The Havana Charter thus set into motion the chain of events that led to the eventual adoption of the ICA in 1962.

Bates (1997) argues that the United States' decision to join and support the ICA was primarily political, not economic; it stemmed from a calculus that the political benefits of the decision outweighed the economic costs. The available econometric evidence indicates that the United States indeed imposed an economic cost on itself by

¹⁴ Subsequent studies found that the tendency observed by Prebisch and his colleague Hans Singer did not apply to all time periods and crops. What is important here is that the tendency was observed at the time when commodity agreements were being debated, and influenced the formation of those agreements.

agreeing to the ICA. However, the political benefits from cooperation with Brazil and Colombia outweighed these costs in the U.S. political calculus. The United States sought to retain Latin America in its sphere of geopolitical influence, forestalling the possibility of Latin American countries' adoption of Soviet-style communism in the wake of the Cuban Revolution (1962). Retaining Latin American countries as allies ensured that those countries remained profitable economic environments for U.S.-based corporations, as it reduced the threat of asset seizure by governments. Meanwhile, the Latin American countries used the threat of communism as a bargaining chip to extract economic concessions from the United States in the interests of national development strategies. Thus the Eisenhower Administration, perceiving communism as a threat to U.S. hegemony in the Western Hemisphere, granted some economic concessions to certain Latin American countries in order to maintain political hegemony in that region.

The U.S.'s anti-communist policies in Latin America entailed the deployment of both hard and soft power, and brought both economic benefit and political violence for the peoples of Latin America. On the benefit side, the Kennedy Administration's large-scale international development aid effort, the Alliance for Progress, formed an integral part of this policy agenda.¹⁵ However, the U.S.'s sponsorship of coups against democratically elected, leftist presidents such as Guatemala's Jacobo Arbenz (1954) and Chile's Salvador Allende (1973) demonstrated the violent side of the agenda. For the purposes of this chapter, it is enough to observe that the U.S.'s support for the ICA occurred within this context.

¹⁵ In fact, the foreign aid disbursed under the Alliance for Progress worked in tandem with the ICA. Aid monies were often directed towards the building of coffee infrastructure, and violators of the ICA were often threatened with the suspension of U.S. aid funding (Bates 1997, 147).

The founding of the ICA is not simply a Cold War story, however. Bates (1997) shows that U.S. domestic politics played a decisive role in the timing and structure of the ICA. The executive branch's need for Congressional support strongly influenced the timing of the U.S.'s support for the agreement. The agreement had been ratified in the Senate as early as 1962, but it did not gain the support of the House of Representatives until 1965. The Democratic victory in the House in 1964 led to the eventual adoption of the agreement in 1965. The support of the National Coffee Association (NCA), the U.S. coffee industry association, was also crucial to the U.S. government's embrace of the agreement. The NCA provided the expert knowledge of the world coffee market that the government did not possess, and thus its support was essential for the agreement's successful passage.

The support of the NCA for the ICA was not motivated by an innocent desire to alleviate poverty in Latin America. The NCA's support reflected the interests of the U.S.'s largest coffee roasting firms, which dominated the association. The above-market raw material price negotiated under the ICA gave disproportionate competitive advantage to the larger coffee roasting firms, which enjoyed economies of scale in production, marketing, distribution, and advertising. Raw material costs absorbed a smaller proportion of the final retail price for larger coffee firms than they did for smaller firms. Smaller roasting firms would thus be relatively penalized with higher raw coffee prices, and larger firms would be given a relative advantage. Beginning in the 1950s and lasting throughout the 1970s, the largest roasting firms consolidated their position in the national coffee market while increasing their market share: the four-firm concentration ratio in coffee roasting rose from 46% in 1958 to 69% in 1978 (Talbot 2004).

In addition to the competitive advantage reaped by the passage of the ICA, the large U.S. roasters were able to form strategic relationships with coffee associations in the dominant producing countries, solidifying their dominant position even further. This trend was exemplified in the long-term contract signed between General Foods, then the manufacturers of Maxwell House brand coffee, and Colombia's national coffee federation, the Federación Nacional del Café (FNC or Fedecafé) in 1963, which guaranteed large purchases of Colombian coffee at a small rebate below the Colombian market price for the purposes of a new 100% Colombian coffee brand (marketed under the name Yuban). This contract, negotiated strategically by Fedecafé, reinforced the large U.S. firms' incentives to support the agreement. If the U.S. firms withdrew support from the agreement, Fedecafé could cancel its contract with General Foods, or renegotiate at a higher price. A similar relationship was established between Procter and Gamble, the manufacturers of Folgers brand coffee, and the Brazilian coffee federation. Talbot (2004) points out that the large roasters were also concerned about the overall political stability of the Latin American producing countries, since (non-U.S.-sponsored) coups, revolutions or political instability would endanger the reliability of their supplies. The NCA thus supported the ICA on political grounds as well.

Thus, as Bates (1997) demonstrates, the ICA became a stable institution due to actions by powerful economic interests within producing and consuming countries, not only due to the actions of the governments of those countries. Bates challenges earlier analysts who viewed the ICA as a coalition among states with unitary interests; rather, he characterizes the agreement "not as a coalition of states but rather a coalition among bureaucrats, politicians and industrialists who mobilized the power of states" (Bates

1997, 154). Viewing states as unitary actors in the agreement obscures the role of domestic politics and international business in establishing and maintaining it.

The ICA worked via a system of export quotas, shares of which were distributed to producing countries based on their shares of world coffee production. Violations of quotas would be met with punitive economic sanctions and the threat of expulsion from the agreement. The agreement worked via an indicator price band, with a minimum price of \$1.20 and maximum price of \$1.40 per pound of raw coffee beans (in constant 1993 dollars.) If the world price exceeded \$1.40, quotas were relaxed, and if it fell below \$1.20, quotas were tightened. Quotas were abandoned during extraordinary supply shocks, such as frosts in Brazil. Consuming countries' customs authorities enforced the quotas by tracking imports of coffee at their ports. Despite the strict monitoring of the quotas by the consuming countries' customs authorities, free riding on the agreement did take place; the free ports of Hamburg, Rotterdam and Trieste were sites of illicit importing by small consuming countries. Furthermore, punitive sanctions were inconsistently and leniently applied to violators; apparently the cost of imposing the sanctions exceeded the benefits of implementing them. Yet the magnitude of free riding was not sufficient to undermine the system; quota violations never exceeded 5% of authorized total exports (Bates 1997, 146).

The ICA was administered through the International Coffee Organization (ICO), an organization of coffee producing countries. The ICO was governed through a bicameral voting system made up of 2,000 votes, divided equally between producing and consuming countries. The votes were distributed based on the countries' shares of world coffee production and consumption respectively. Approval of any decision required a

two-thirds' majority among *both* producing and consuming countries. The votes were distributed such that the dominant producing countries, Brazil and Colombia, were assured effective joint veto power among the producers, and the dominant consuming country, the United States, was assured unilateral effective veto power among the consuming countries.¹⁶ Brazil, Colombia and the United States also jointly controlled the elected Executive Board and other committees of the organizations in a similar manner. In this way, the dominant producing and consuming countries enjoyed effective control over the agreement. In addition, through the agreement Brazil and Colombia were able to control the economic behavior of the smaller producers of Africa and Central America through unequal alliances.

Econometric estimates of the effectiveness of this scheme showed that in general, it raised and stabilized prices. Overall, the studies show that producing countries gained in net export revenues from the agreement, while consuming countries absorbed a net loss (Bates 1997). While questioning the specifications of the studies, Bates finds that the ICO quotas led to systematic differences in prices between member and non-member countries; during periods of quota enforcement, the difference in coffee prices between member and non-member countries was statistically significant at the 1% level. The price difference was not statistically significant when the quotas were not in force. This result leads Bates to conclude that the agreement restricted arbitrage between member and non-member countries, and hence was successful by that measure.

The ICA quotas were suspended during various periods of the agreement. It was suspended in 1972, in the wake of the breakdown of the Bretton Woods exchange rate

¹⁶ For details on the distribution of voting shares and the structure of decision-making, see Bates (1997), Chapter 6: "The Functioning of an Institution."

system in 1970 and the subsequent devaluation of the dollar. As a result, producing countries campaigned for an increase in the ICA's dollar-denominated indicator prices. The growth of instant coffee production firms in Brazil during this period allowed that country's exports to undercut domestically produced instant coffee prices in the United States, straining relations between the leading producing and consuming country of the ICA. In 1975, a frost in Brazil led to a spike in world coffee prices that lasted for the rest of the decade. As prices began to fall in 1980, quotas were reinstated.

The ICA agreement proceeded by a series of treaties of fixed term, which had to be extended by vote at the end of the period or else expire. The first ICA, initially adopted in 1962 and ratified by U.S. Congress in 1965, lasted until 1968. It was renewed, leading to the second ICA, which lasted until 1972. The third ICA was negotiated in 1976 and under its terms, quotas were reinstated in 1980 and renegotiated yearly. The fourth ICA was signed in 1983 for a seven-year term, set to expire in 1989. The treaty was not renewed and the quota system broke down. It has not been reinstated since, though there have been nominal ICA agreements without quotas in 1994 and 2001. However, since 1989 coffee prices have been formed entirely by private-sector actors within a deregulated environment.

The ICA broke down due to a disagreement between two blocs of countries, one centered on the large producers and the other centered on the United States. The blocs advanced conflicting proposals for the 1988 ICA. The "majority bloc" composed of Brazil, Colombia, the European Economic Community (EEC), and the African robusta producers, campaigned for a one-year extension of the 1983 ICA with subsequent redistribution of quota shares by negotiation. The "dissident bloc" was composed of the

United States and the Central and South American arabica producers (called the “other milds” group in the industry). This bloc argued for an immediate redistribution of quota shares to reflect these producers’ increase in their shares of the world market.

According to Talbot (2004), the United States was motivated by three central concerns in its support of the dissident bloc: Cold War politics, trade politics, and free-market ideology. First, it was engaged in Cold War-related conflicts in Central America, most notably in its support for the armed *contras* against the Sandinista regime in Nicaragua. Coffee growers represented a source of strategic support in the anti-communist effort. Hence, the United States saw fit to align its interests with the coffee growers of the Central American region. Second, the United States was engaged in an ongoing trade dispute with Brazil during the 1980s over the latter’s relatively restrictive trade policies, most notably in the software and pharmaceuticals industries. The United States thus had reason to take retaliatory action against Brazil, and the coffee market provided a venue for this action to take place. Finally, under the Reagan administration a strongly free-market ideology had taken hold in American political life. Reagan’s Secretary of State, George Shultz, was an adherent of this ideology, leading the State Department to withdraw its support for the ICA. In addition, the U.S. representative at the International Coffee Council, which governed the ICA, was shifted during this period from a State Department official to a Treasury official. The Treasury Department’s decision-making tended to reflect the United States’s narrow economic interests over and above politics. The breakdown of the ICA was, of course, in the narrow economic interests of the United States. The “other milds” group, in turn, believed that the breakdown of the quota system would benefit them, based on a World Bank econometric

simulation (Akiyama and Varangis 1990). The simulation, however, underestimated the extent of the fall in world prices that would be brought about by the demise of the quota.

A major factor in precipitating the dramatic price decline, which the simulation did not incorporate, was the rapid entry of Vietnam into the world coffee market. As part of an overall market liberalization drive (called *doi moi*) and its accompanied export-led development strategy initiated during the 1980s, the Vietnamese government, through its agricultural development bank, extended credit, inputs and technical assistance to small farmers in order to plant coffee, bolstered by technical advice and additional lending from the World Bank.¹⁷ Migration, economic growth, and the quest for lucrative agricultural crops led smallholding farmers to respond actively to the government's incentives to initiate and expand coffee growing. In 2004, the value of open loans to Vietnamese coffee producers was estimated at \$170 million (Giovannucci et al. 2005). Between 1981 and 2001, Vietnamese coffee exports increased at an astonishing average rate of 29% per year, from 4,600 to 844,252 MT. Over the course of the 1990s alone, Vietnamese coffee production increased over sevenfold – from less than 100,000 to over 700,000 MT in 1999. Its share of the global *Robusta* market approached 40% in 2001, as global demand shifted towards *Robusta* for low-cost blends (Giovannucci et al. 2005). The scope of the Vietnamese coffee expansion was unexpected and unprecedented, and it affected the operation of the global coffee market profoundly.

Three additional concurrent factors led to the dramatic coffee price decline of the early 1990s: an increase in the use of chemical fertilizers and mechanized harvesting in large-scale production, the expansion of low-cost *robusta* production in Africa, and the

¹⁷ Though the World Bank did play a role in the Vietnamese coffee expansion, critics of the Bank have exaggerated this role, perhaps in order to assign the Bank responsibility for the ensuing coffee crisis.

transplanting of large numbers of Brazilian coffee trees away from frost-prone areas of the country and onto new lands in the tropical north (Topik, Talbot, and Samper 2010). All of these factors led to declines in the international *arabica* price, as total supply rose along with yields, roasters substituted *robusta* for *arabica* in their blends, and the incidence of frosts decreased.

Figures 3.3-3.5 examine the trend of coffee prices over the period 1960-2010 (UNCTAD 2011). Figure 3.3 provides data on all four major coffee price series over the entire period. The four major coffee indicator prices are: Colombian mild *Arabicas*, Brazilian and natural *Arabicas*, other mild *Arabicas*, and *Robustas*. “Naturals” are coffees processed via the dry method, in which the beans are picked from the tree and left in cherry form to dry in the sun without being depulped. Once dried, the outer layer is removed by a threshing machine. “Milds” are coffees processed via the wet method, in which the wet outer layer is removed from the bean immediately after picking. All four indicators move together, with price peaks coinciding with frosts in Brazil in 1977 and 1985.

Figure 3.4 focuses on the period between 1988 and 1995, known as the “first coffee crisis.” Focusing on the “other milds” indicator price, from a peak of \$1.92 per pound in 1986, the price fell to \$1.06 by 1989 and hit a trough of \$0.63 in 1992. It then recovered rapidly in 1994, rising again to \$1.48 per pound. Figure 3.5 focuses on the second coffee crisis, which occurred between 1999 and 2005. From a peak of \$1.85 per pound in 1997, the “other milds” price fell to \$1.01 in 1999 and hit a trough of \$0.60 in 2002. It then recovered slowly between 2003 and 2005, rising once again to \$1.14 in 2005. Since 2005, coffee prices have been on a continuous upward trend, reaching \$1.94

in 2010. At the time of writing, prices have risen even higher, to a level of \$2.84 per pound. Surprisingly, this price spike has occurred in the context of rising world production: to date no economic studies have been able to account for this unprecedented trend.

3.4. Institutional Change and Distribution of Value

Institutional change in the coffee commodity chains has brought about systemic changes in the distribution of value: as regulations supporting producer prices have been dismantled, value has shifted from producing to consuming countries. Consuming countries' revenues and profits from coffee sales have also increased due to new forms of coffee commerce focused on new forms of quality (Daviron and Ponte 2007). Within producing countries, the portion of the value chain accruing to government has disappeared. Within consuming countries, roasting and trading segments of the chain have become more concentrated. Additionally, the response to changes in the world market price has been *asymmetric* with respect to consumer prices: a rise in the world price of raw coffee beans tends to translate into a rise in the consumer price, while a fall in the world price tends to lead to an unchanging consumer price. This section examines the data that support the above findings.

Talbot (2004) finds that over the period 1970-2000, the distribution of income along the coffee commodity chain shifted away from growers and exporting firms located in producing countries, in favor of large trading, roasting and packaging firms located in consuming countries. Fig 3.6 shows the overall pattern based on Talbot's data, collected from the International Coffee Organization (ICO). The years in question are measured from October 1 – September 30, a “coffee year” as measured by the ICO. I divide

Talbot's data into three parts: total share of retail price retained by consuming countries, total share of retail price retained by producing countries, and transport costs plus weight loss. Examining the figure, we find two years in which shifts in the distribution of income from producing to consuming countries are particularly dramatic. The first occurred in 1985/6, reflecting a suspension in the export quota system that would be reinstated in 1987. The second dramatic shift occurred in 1989 when the quota system was finally abandoned. Within six months of abandoning the quotas, world prices for green (raw) coffee had declined by 50%. Retail prices, on the other hand, declined only slightly.

Figure 3.7 shows the relationship between percentage changes in growers' prices and percentage changes in retail prices. The changes follow each other in some years, and diverge in others. The dramatic fall in both growers' and retail prices in 1977/8, and the dramatic rise in 1985/6, both reflect global supply conditions. As Brazil recovered from its 1975 frost through replanting in 1976/7, world supply increased dramatically. In 1985, both growers' prices and retail prices rose dramatically due to a drought in Brazil, which reduced world supply. The fall in growers' prices in 1986/7 reflects the supply recovery from this drought, which occurred during a temporary suspension of quotas. The subsequent rise in growers' prices in 1987/8 reflects the – temporary – reinstating of these quotas, which were subsequently abolished in 1989. The abolition of the export quotas induced the fall in prices observable in 1989/90. Growers' prices continued to fall until 1994, when a frost in Brazil led to a contraction of world supply and a rise in the growers' price.

The fall in the growers' share of the final retail price, however, coincided with a rise in their share of the *export* price. Putting these two effects together leads one to

recognize the dramatic fall in the share of the final retail price earned by exporting countries. Figure 3.8 examines the distribution of the share of the final retail price within coffee producing countries. The share is divided into two segments: the grower's price, and the return to value-added processing activities between the farm gate and the port. The fall in value-added beyond the farm gate reflects the liberalization policies undertaken by coffee producing countries in the aftermath of the fall of the ICA. These liberalization policies have entailed the elimination of state marketing boards and export taxes, which have increased the grower's share of the price *within* the producing countries (Daviron and Ponte 2005). However, these gains must be assessed in the context of the dramatic fall of the grower's share of the final *retail* price. Liberalization of national coffee markets has also entailed decline in growers' access to technical assistance and credit. Most coffee growers have not benefited from the global boom in coffee consumption; most have suffered from it. This phenomenon – a boom in consuming countries and deepening poverty in producing countries – Daviron and Ponte (2007) call the *coffee paradox*.

Meanwhile, the advantage in the global coffee market has shifted decisively in favor of multinational importing and roasting firms. Fitter and Kaplinsky (2001) contrast increased competition among coffee growers in producing countries with increased concentration among importing and roasting firms based in consuming countries. The share of total world coffee importing accruing to the top 5 firms has increased from 36.4% in 1989 to 41.5% in 1995, reaching a peak of 46.8% in 1993. Based on data from a UK investigation, Talbot (2004) estimates that Nestle's profits as a percentage of retail

sales rose from 20.9% in 1985 to 32% in 1989, suggesting that the coffee market had become increasingly concentrated even before the dismantling of the ICA.

3.5. The Post-ICA Regime

This section looks more closely at the changes wrought by the suspension and eventual removal of the export quotas, which occurred upon the dismantling of the ICA. These changes have mostly benefited large-scale coffee roasting corporations based in consuming countries, and harmed small-scale producers based in developing countries. Some small-scale producers have been able to benefit in a limited way from increasing differentiation of the coffee market according to location-specific quality characteristics. Sustainability certifications, such as FLO, have contributed to these limited benefits. However, the majority of the world's small-scale producers have suffered from periodic bouts of absolute poverty in an economically insecure environment marked by price volatility. I divide my investigation into five topics: concentration, differentiation, institutional changes in producing countries, new financial instruments, and new patterns of price formation.

3.5.1. Concentration

Evidence indicates a clear trend toward increased concentration at key nodes of the coffee supply chain during the post-ICA regime. Within the trading segments of the chain, mergers and acquisitions between large traders occurred. In the 1990s, larger firms tended to acquire smaller firms: for example, Neumann acquired Rothfos and Cargill acquired ACLII. In the 2000s, the trend shifted toward mergers: Volcafé merged with E.D.&F.Man; Esteve and Cargill merged to form ECOM (Daviron and Ponte 2007). Mid-sized traders, meanwhile, were bought out or forced into bankruptcy. Daviron and Ponte

(2007) estimated that by the early 2000s, the three top trading firms accounted for 45% of the total market.

Over the same period, the roasting industry has become concentrated to an even greater extent than the trading industry. The trend has been towards the growth of large holding companies that control a number of brands. For example, Altria (formerly Philip Morris) controls sixteen brands including Maxwell House, Splendid, Carte Noire, and Gevalia. Sara Lee/Douwe Egberts controls fourteen brands including Hills Brothers, Chase and Sanborn, and Chock Full o' Nuts. The top two coffee holding companies, Altria and Nestlé, control 49% of the world market, and the top five, which include Procter & Gamble, Tchibo, and Sara Lee/Douwe Egberts, control 69% of the market.

3.5.2. Differentiation

During the era of the ICA regime, coffee was considered by all but the most well informed consumers to be a standardized, mass-market commodity. Since the late 1980s, the status of coffee has begun to change inexorably towards a differentiated commodity. Lewin, Giovannucci and Varangis (2004) have argued that the growing economic importance of differentiated coffees constitutes a market opportunity for small-scale producers, though they warn that too rapid an increase in the supply of differentiated coffees may dampen its existing price advantages.

Differentiated coffees are characterized not only by quality but also by the unique taste attributes that derive from a particular region. The taste and texture of roasted coffee is strongly influenced by the qualities of soil and climate unique to the region in which it is grown. Such qualities, called *terroir*, provide coffee growers with the means of product differentiation and the capture of natural resource rents through premium prices.

Organizations of producers, in collaboration with state agencies, can develop and promote labels of geographical origin that create and promote exclusive region-specific brands. Examples abound in the wine sector, with the Burgundy, Bordeaux, and Champagne regions of France all possessing legally binding trademarks that only producers from the region in question are allowed to display. These labels are called, in French, *Appellations d'Origine Controlée* (AOC).

The extent to which economically impoverished producers are capable of taking advantage of these premiums is so far not established. The results of existing studies of AOC suggest that their impact on poverty is likely to differ sharply across regions. Analyses of existing AOC systems indicate that distribution of benefits tends to be unequal, accruing to those producers lucky enough to inhabit regions whose products possess distinct and sought-after characteristics. Within those regions, producers with superior capacity for marketing and advertising will benefit disproportionately, as well. Yet regions without current AOC may simply have so far failed to identify latent attributes of region-specific products, and systematically cultivate and market their output based on those attributes. In other words, *terroir* may be endogenous to the process of agrarian development. Distribution of benefits can be ensured through active participation of cooperatives as well as various forms of state intervention. Other issues arise with respect to the enforcement of AOC: the creation and enforcement of intellectual property rights (IPR) in regional appellations is a time-consuming and expensive process that requires a large body of legal expertise, which may not be accessible to impoverished regions. On the other hand, with assistance from government

and/or NGOs, IPR expertise can potentially be acquired and marshaled by farmers effectively.

In terms of commodity chain analysis, one can argue that the creation of AOC will offer opportunities for *upgrading* and *rent capture* within commodity chains. However, commodity chain theory holds that not all producers within a commodity chain can upgrade at once: were all to do so, the increased value produced by the more advanced production process would be competed away and producers would remain at the same level of welfare as before. In like manner, the existence of rents implies the scarcity of a resource or factor of production. With the expansion of AOC to an ever-widening range of regions, the average value of an AOC might well decline. Even if this outcome did not arise, it is likely that some AOC would command much higher premiums than others. Finally, whether or not even a relatively high-value AOC would be accessible to smaller or more impoverished producers within the protected region would depend on a host of other factors, including government policies, the existence or non-existence of organizations of small farmers (such as cooperatives), and the ability of those farmers to access protected high-priced markets such as the FLO system and its related family of certifications. The confidence that Daviron and Ponte (2007) and their colleagues place in the virtues of AOC may be overstated; much more empirical research is needed on the impact of these schemes on the welfare of smaller and poorer producers within protected regions.

A related view to that of Daviron and Ponte comes from the work of Whatmore and Thorne (1997), who argue for new forms of economic networking based on “connectivity” between actors along supply chains. These authors use Bruno Latour and

John Law's actor-network theory (ANT) to argue the importance of alternative food networks that disrupt the modern paradigm of impersonal, arm's length transactions. This school of thought argues that the development of the capitalist world-economy consisted of the lengthening of supply chains and the replacement of personal, trust-based networks of trade and financing with impersonal, arm's length transactions. The development of new supply chains within this framework, based on "connectivity" rather than impersonal calculations of profit, thus holds out transformative possibilities.

The above authors make two glaring oversights that cast serious doubt on the potential for the new supply chains to bring about systemic transformation. First, they ignore existing – and quite dramatic - disparities of power even *within* these more densely connected networks, as Chapter 2 makes clear in its analysis of the FLO system. Second, they fail to articulate the way in which these "alternative geographies of food" might spread sufficiently to transform the overall system. Alternative trade networks exist *within* an established, impersonal and profit-oriented market infrastructure, and while their expansion holds out some transformative possibilities, it does not – and cannot – challenge either the basic structure of market transactions or the environment in which those transactions take place.

To sum up briefly, while differentiation of coffees has benefited some small-scale producers, it has not led to the sea change that optimistic analysts have argued for as a possibility. AOC and fair trade networks still contain the potential to benefit small-scale coffee farmers, but show no sign of fundamentally altering the power relations that structure the distribution of rents along the coffee commodity chain.

3.5.3. Institutional Change in Producing Countries

The retreat of the state from the process of growing, processing and marketing coffee has been the principal institutional change in the coffee commodity chain within producing countries since the fall of the ICA. Daviron and Ponte (2007) examine the process of liberalization and privatization of marketing functions in four East African countries: Uganda, Kenya, Ethiopia, and Tanzania. They find that the impact of liberalization differed across the four countries. In Kenya, cooperative societies were corrupted when the state retreated from oversight; the farmer's share of the export price fell sharply. Ethiopia liberalized its domestic market, but retained a state-controlled export auction and continued to prohibit foreign traders from operating in the country. Ethiopia's coffee trading system contains both private traders and cooperatives. In Tanzania, input credit to farmers collapsed as the coffee supply chain became increasingly vertically integrated. Foreign firms captured increasing shares of the domestic market, and the auction system became less competitive as domestic market concentration increased. Cooperatives' market shares, meanwhile, decreased, and premium payments to farmers in return for higher quality were discontinued. In Uganda, the cooperative sector largely disappeared, and small- to medium-scale private buyers proliferated. Exporting firms became more consolidated, though at the domestic trade level a large number of small-scale enterprises persisted.

At the national level, the impact of liberalization appears to coincide with neoclassical predictions: the East African countries that have liberalized more fully have also seen less monopolization and greater competition. From their comparative analysis, Daviron and Ponte (2007) conclude that higher remaining barriers to entry, post-liberalization, have brought about higher degrees of monopolization and penetration by

multinational corporations (MNCs). Tanzania, with complex licensing procedures and high business setup costs, has seen the deepest penetration of MNCs into its export sector, measured by share of total export market. Kenya, with virtually no barriers to entry, has seen MNCs capture the smallest share of all the East African countries' export markets, and Uganda has fallen in the middle.

At the local level, however, the measured impact of liberalization on the distribution of value along the coffee commodity chain has been a reduction in the farmer's share. This finding runs counter to the predictions of neoclassical economic theory. Neoclassical theory predicts that liberalization would increase the share of the final price going to farmers, as competition among traders for farmers would increase. Yet existing empirical evidence indicates the contrary; in Uganda, the increased competition called forth by the liberalization of the coffee market brought about a fall in the producer's share of the final export price. Fafchamps and Hill (2008) document the process by which increases in the international coffee price fail to be passed on to farmers. Their fieldwork methodology consists of a series of surveys administered to every link of the commodity chain within Uganda: producers, small-scale traders who do not own processing mills, large-scale traders who do own mills, and exporters. These authors attribute the falling grower's share to asymmetric information between farmers and traders. Farmers are unable to track or respond to short-term movements in international or export prices, due to a lack of available published or broadcasted information about prices. Traders, meanwhile, track prices closely and respond by increasing or decreasing trading activity. This asymmetry of information entails that marketing margins rise along with prices. Meanwhile, farmers' short-run supply response

is suppressed by the same lack of information that prevented them from demanding higher farm-gate prices. Increased marketing margins spur small-scale traders to enter the market, driving margins down towards zero as an increased number of traders compete over a relatively unchanging quantity of harvested coffee. Large-scale traders benefit from the larger number of small-scale traders in the market; those who own mills are able to make use of their smaller competitors as intermediaries. Competition among traders erodes the small traders' margins until they are no better off than before. The authors conclude: "Normally as economists we believe that competition is good, yet here it does not achieve the desired result" (Fafchamps and Hill 2008, 764). The authors' excellent econometric work aside, they would be far less surprised at this result had they encountered the work of any scholars who have taken an ethnographic approach to the study of markets (see, for example, Harriss-White 2008).

3.5.4. Financial Instruments and Speculation

The post-ICA regime has seen a dramatic increase in the use of financial instruments such as futures and options to determine present and future coffee prices. Use of futures markets was already widespread by 1980; the annual value of traded futures contracts in that year was four times the value of physical stocks. By the 1990s, however, the value of futures contracts surged to 11 times the value of physical stocks. This subsection reviews, very briefly, the structure and functions of futures and options markets and explains their significance in the coffee market.

Futures are contracts declaring the purchase of a commodity of specified type, in a specified quantity, on a specified future date. Futures evolved during the late 19th century, as expanding markets and longer supply chains increased the degree of price

uncertainty in commodities. Futures contracts provide means of locking in prices over a specific time period. For instance, a coffee roaster seeking to buy coffee six months from now will buy 6-month futures contracts that guarantee the price stated on the contract: in market parlance, the roaster takes a *long* position. If the roaster believes that the spot market price of coffee will rise above the 6-month futures price in the interim, the roaster will expect to profit from buying the futures contract. The roaster can also sell futures contracts if s/he believes that the spot market price will drop below the futures price in the interim, thereby taking a *short* position.

Options are contracts that grant the purchaser the right, but not the obligation, to either buy or sell a specified quantity of a commodity, of a specified type, on a specified date, at a specified price. An option that grants the right to buy is called a call option, and an option that grants the right to sell is called a put option. Options can be deployed in tandem with futures, as well, allowing the purchaser a greater range of instruments to manage risk. For instance, buying a call option on a futures contract ensures that the purchaser will be able, if desired, to buy that contract at some point in the future at a predetermined price. If the purchaser believes that the price of the futures contract will rise above that stated on the call option, plus the price of the option itself (called the *premium*), s/he will find the call option an attractive offer. Participants in futures and options markets can be divided roughly into two types of agents: hedgers and speculators. Hedgers seek to reduce the risk of price volatility; speculators seek to profit from price movements.

Empirical studies have not been able to determine the exact relationship between the use of these financial instruments and the volatility of coffee prices; it is likely that

speculation in futures and options has increased price volatility, but it has been impossible to determine by how much. However, it is clear that certain actors in the coffee commodity chain – large-scale traders and roasters – have enjoyed disproportionate access to these financial instruments, and have used them to lock in prices and ensure profits. With a few exceptions (such as Peru’s cooperative organization COCLA), growers and their organizations have been excluded from these markets due to lack of knowledge and capital. Hence, as futures and options markets have reduced the degree of price uncertainty faced by traders and roasters, they have, at best, not affected the degree of price uncertainty faced by growers, and may have increased it.

3.5.5. Price Formation

The behavior of coffee prices in the post-ICA regime has attracted the attention of a number of economists. Mehta and Chavas (2007) note the phenomenon of *asymmetric price transmission*, which they detect using a vector autoregression (VAR) on current and lagged values of farmgate, wholesale, and retail prices. Under asymmetric price transmission, increases in wholesale prices are passed on to the consumer via increases in retail prices; however, decreases in wholesale prices do not induce corresponding decreases in retail prices. The result is a progressive ratcheting-up of retail prices as wholesale prices go through cycles of boom and bust.

The authors discover, consistently with the documentary evidence, that the dissolution of the ICA exposed farmers to more rapid fluctuations in prices. In their paper, the authors detect a central, determining role for wholesale prices in coffee trading. Retail and farmgate prices do not directly influence each other, but both influence and are influenced by movements in wholesale prices. The ICA regime shielded farmgate prices

from fluctuations in wholesale prices; the dissolution of the ICA removed that shield.

Post-ICA, the authors find that wholesale prices Granger cause farmgate prices; under the ICA, they did not. Furthermore, the authors discover that the removal of the ICA controls increased the degree of *contemporaneous* price transmission. Price shocks at the farmgate level are transmitted to the wholesale level, nearly one-for-one, within the month.¹⁸

Finally, the authors discovered that overall, and somewhat paradoxically, the removal of the ICA controls lessened coffee growers' supply response to price information. Supply response of coffee growers can be divided into two parts, medium run and long run. Medium-run supply response refers to the one- to three-year lag between adjustments in the intensity of tree maintenance and per-hectare yields. Long-run supply response refers to the four- to five-year lag between the planting of sapling coffee trees and the time when those trees begin to bear fruit. The authors find that the long-run supply response to price changes was much stronger under the ICA, though the medium-run response was not significantly different. They conclude that the ICA "deepened the coffee cycle," paradoxically, since its policies were designed to dampen that cycle. This finding sits uneasily with the work of Krivonos (2004) who uses an error correction model to measure the impact of the end of the ICA on coffee price transmission. She finds that price transmission from world price to the farmgate became faster after the end of the ICA.

¹⁸ Formally, the derivative of wholesale prices with respect to retail prices, over a one-month time period, is close to unity in the post-ICA regime: $\partial p_t^W / \partial p_t^R \approx 1$, where p_t^W refers to the wholesale price in month t , and p_t^R refers to the retail price in month t . During the ICA regime, the degree of contemporaneous price transmission was such that $\partial p_t^W / \partial p_t^R \approx 0.3$.

3.6. Conclusion

This chapter has reviewed the recent history of the coffee market, identifying the changes that have taken place, most dramatically since 1989. I first provided a definition of commodity chains, introducing a set of terms that allows the reader to understand the structure and functioning of the international coffee trade. I then retold the history of the International Coffee Agreement, including its structure and the political motivations for its existence. In the subsequent sections, I identified trends in the distribution of income along the coffee commodity chain, and pointed out key features of the post-ICA regime.

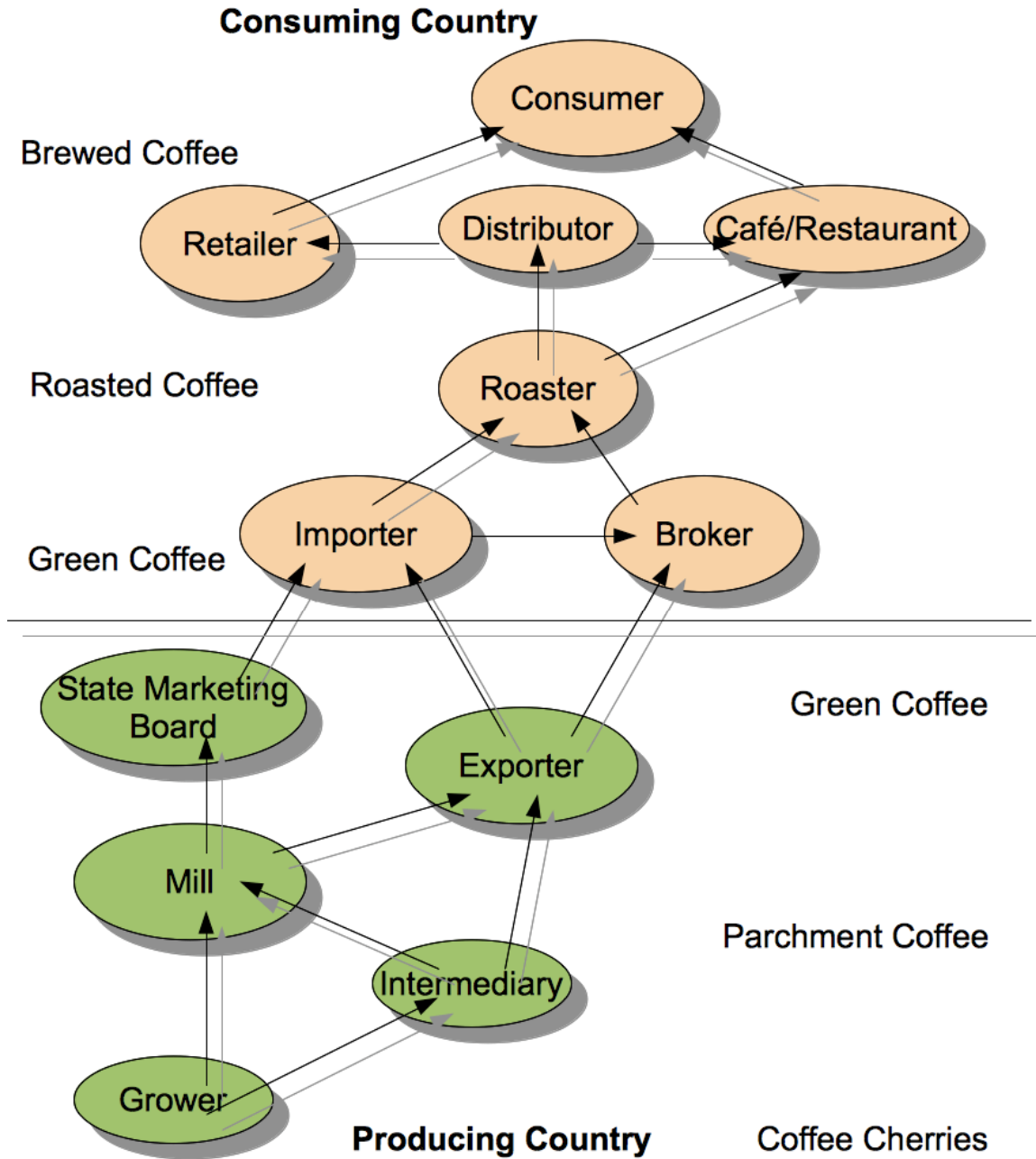
The overarching theme that emerges from this analysis is as follows: institutional change in the coffee market has altered the distribution of income along the coffee commodity chain. The primary institutional changes in the coffee market since 1989 have been the deregulation of supply occasioned by the breakdown of the ICA, the liberalization of domestic markets in producing countries, and the adoption of increasingly sophisticated financial instruments for coffee trading in consuming countries. These changes have largely favored consuming-country actors, particularly large-scale roasting and trading corporations, and harmed small-scale producers. Differentiated coffees have offered a few small producers opportunities for upgrading, but these gains have not been spread among the majority of smallholder coffee farmers. Domestic market liberalization has brought about a variety of effects on the structure of those markets, but by and large it has not increased farmers' welfare. Increased competition among traders occasioned by liberalization has had effects opposite to that predicted by neoclassical theory, bringing about falling farm prices due to asymmetric information between producers and traders. Asymmetric price transmission has

developed between wholesale and retail prices, in which increases but not decreases in prices are passed on from the wholesale to the retail level.

The above findings suggest that systems of above-market pricing such as FLO and related ethical trading initiatives constitute an important intervention in coffee markets, attempting to bolster producers' incomes devastated by deregulation and chronic low prices. Such initiatives have been, thus far, unable to counter the trend towards increasingly unequal distributions of income along the coffee commodity chain. Nevertheless, though insufficient to induce macro-level systemic transformation, a large part of the FLO system's importance and transformative potential lies in its support for independent smallholder cooperatives in developing countries. These cooperatives provide the subject matter for the chapter that follows.

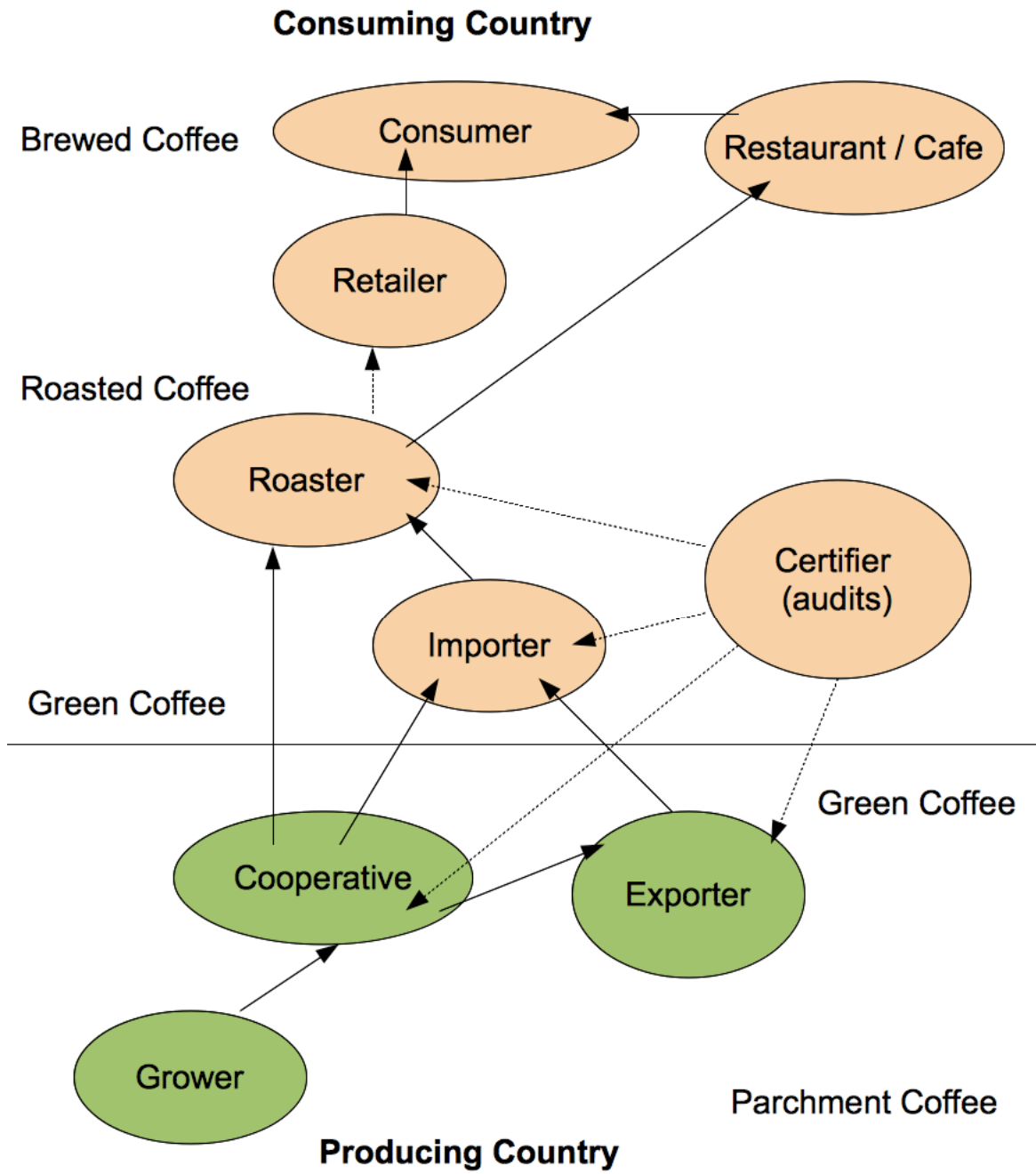
CHAPTER 3 Appendix: Figures

Figure 1. Conventional Coffee Supply Chain



Source: Adapted from Luttinger and Dicum (2006)

Figure 2. Fair Trade Certified Coffee Supply Chain



Source: Adapted from Luttinger and Dicum (2006)

Figure 3.3. Real Coffee Prices, 1960-2010

Source: ICO (2011)

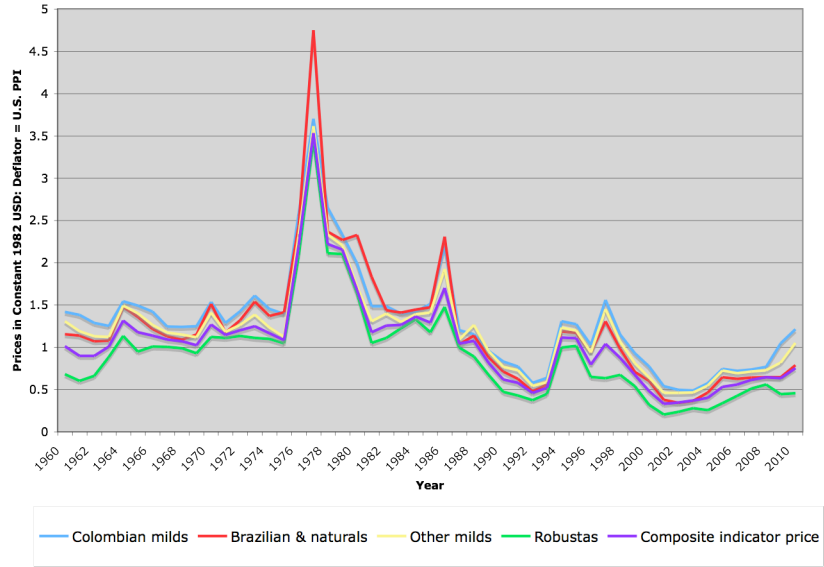


Figure 3.4. The First Coffee Crisis, 1986-1996

Source: ICO (2011)

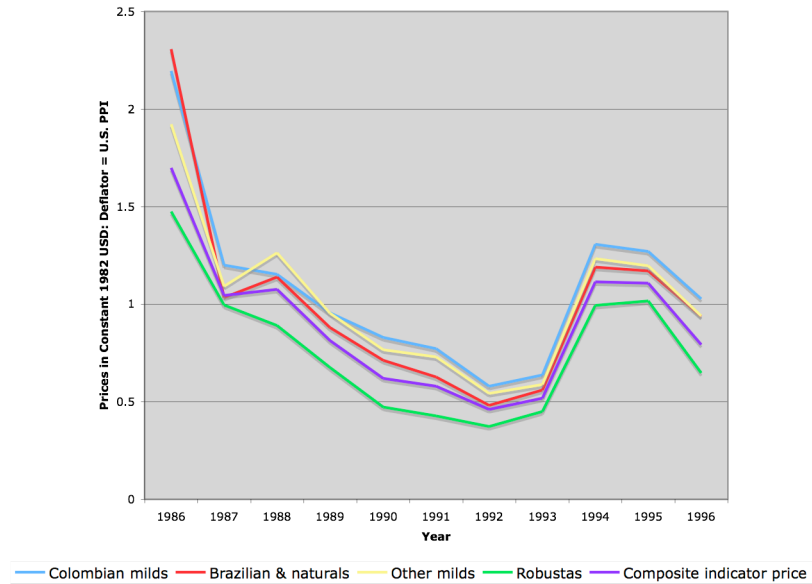


Figure 3.5. The Second Coffee Crisis, 1997-2010

Source: ICO (2011)

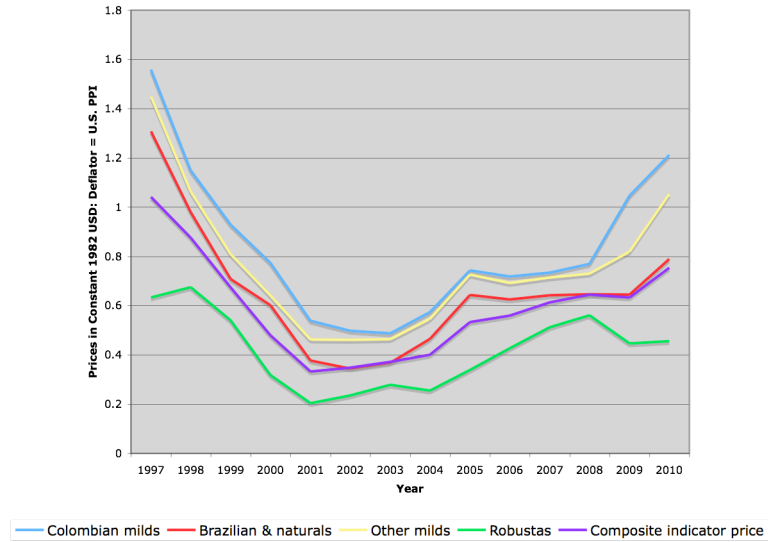


Figure 3.6. Distribution of Total Coffee Retail Price, 1975-2001

Source: ICO (2011).

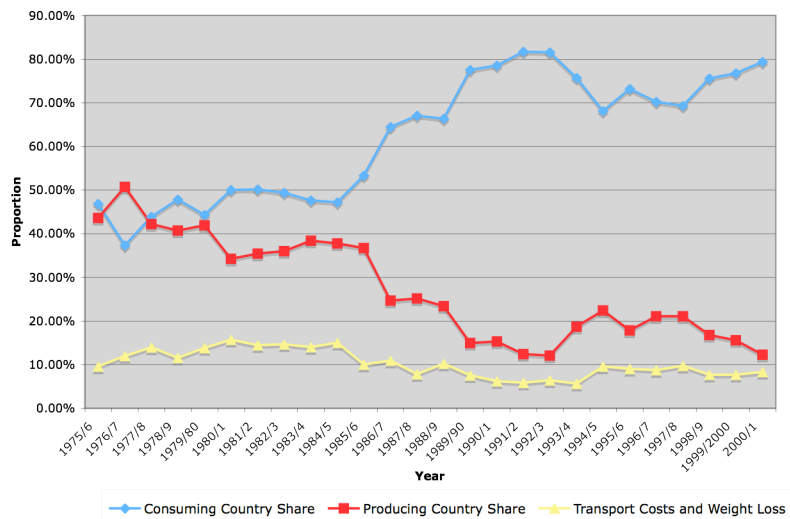


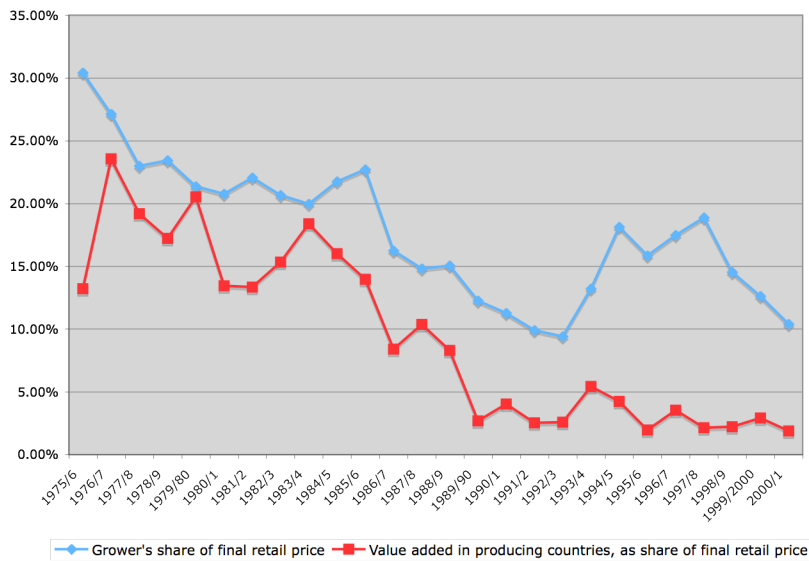
Figure 3.7. Changes in Grower / Retail Price, 1975-2001

Source: Talbot (2004).



Figure 3.8. Distribution of Final Retail Price Within Producing Countries, 1975-2001

Source: Talbot (2004).



CHAPTER 4

AGRARIAN MARKETING COOPERATIVES AND FAIR TRADE

“We must find what form of ‘bonus’ to give for joining the cooperatives (and the terms on which we should give it), the form of bonus by which we shall assist the cooperatives sufficiently, the form of bonus that will produce the civilized cooperator.”

V.I. Lenin, “On Cooperation,” *Pravda* May 26, 1923

4.1. Chapter Introduction

Can the formation of independent, voluntary and democratically governed agrarian organizations stimulate rural economic development and alleviate poverty? And can access to alternative trade networks, such as FLO and other certification systems, play a formative role in this process? In terms of the quote from Lenin above, do fair trade arrangements such as FLO certification provide the right “form of bonus” to small agricultural producers to join cooperatives?

Two important differences exist between the type of cooperatives that Lenin referred to and the ones I analyze in this chapter. First, Lenin was writing of collective farms, in which a large number of farmworkers jointly cultivate and manage a single plot. This chapter is concerned with marketing and service organizations made up of small farmers, who cultivate and manage their plots individually, while governing marketing and service provision jointly. Second, Lenin believed that the state should impose cooperative organization from the top down, and sought to sweeten the deal by rewarding individual farmers for pooling their plots. My position in this chapter is that cooperative organization should proceed from the bottom up, but with state support, and it need not involve land pooling by farmers. Finally, as implied by the previous point, Lenin believed that the state should provide the bonus of which he spoke; this chapter argues that the

bonus may in fact be delivered through the market itself, though this arrangement does not preclude the efficacy of state-driven bonuses as well.

Lenin's quote applies as readily to a marketing and service cooperative as to a state-organized collective farm. The members of an agrarian marketing cooperative must be rewarded for their participation; participation in a cooperative must lead the farmers to a higher level of well being than was possible before the cooperative was formed. In order to successfully organize the cooperative, farmers must voluntarily give up a portion of their income to invest in the organization and its collective assets. The farmers must also give up a portion of their labor time in order to govern the organization through careful democratic deliberation.¹⁹ In impoverished agrarian contexts where short-term needs tend to overwhelm long-term investment and planning, or in which violent conflict, political manipulation, and extreme social inequality may make democratic participation difficult if not impossible, the success of such an organization is far from a foregone conclusion.

This chapter presents the major theoretical issues and empirical evidence surrounding the questions of whether agrarian marketing cooperatives increase farmer welfare. This question ties to the debate on whether interventions such as FLO certification, or fair trade in general, can improve farmer welfare indirectly, through bolstering agrarian marketing cooperatives, as well as directly, through paying higher prices. In the course of the discussion, I touch upon some of the larger questions of rural development as they arise, but I do not address these questions in depth. I refrain from

¹⁹ The author recognizes the top-down, undemocratic nature of actual Soviet cooperatives, but also surmises that the Soviet planners may have sought to create a semblance of democratic participation among the rank and file.

tackling the larger issues explicitly, due to the difficulties involved in synthesizing the findings of the existing literature on cooperatives alone.

The literature on agrarian marketing cooperatives can be divided into two broad strands. One strand analyzes the cooperatives in the agrarian sector of industrialized countries such as the U.S.A., Canada, and Western Europe. The papers in this tradition come primarily from the agricultural economics discipline, and tend to employ neoclassical methods and ask neoclassical questions. The primary focus is on allocative efficiency, though some of the papers also touch upon questions of farmer welfare. The second strand of the literature focuses on the role of agrarian marketing cooperatives in developing countries. These include studies of cooperatives in post-colonial Africa, South Asia and the Middle East, transition countries in Eastern Europe, and agrarian regions of Latin America. This literature tends to focus to a greater extent on political and social questions. It examines the role of the state and the questions of ethnicity, gender, and caste, as well as problems of rent seeking, inequality and corruption within the cooperatives. This second strand addresses the question of farmer welfare in much more depth than the papers coming from the industrialized countries.

The central conclusion of this chapter is that agrarian marketing cooperatives hold great potential for increasing the welfare of small farmers, provided that certain conditions are present. First, the state must recognize and support the existence of the cooperatives, without trying to control them. Second, the cooperatives themselves must be well enough organized and establish internal democratic governance processes that are robust enough to safeguard against high levels of corruption and rent seeking. Small amounts of rent seeking are consistent with overall cooperative success; large-scale rent

seeking or corruption, however, can lead quickly to a cooperative's demise. Government intervention may either improve or detract from the efficiency of cooperative operations, depending both on the characteristics of the regime and form of the intervention.

Cooperatives thus stand as historically and socially important rural organizations that can be successfully integrated into comprehensive rural development strategies, provided that basic organizational problems are avoided.

Economic theory provides no clear guidance for predicting the success or failure of individual cooperatives. The limitations of economic theory in this regard appear to be an artifact of its near-exclusive focus on static allocative efficiency, to the neglect of long-term, dynamic efficiency as well as broader social concerns. When both neoclassical and heterodox theories are examined, economics gives us no *a priori* reason to expect that agrarian marketing cooperatives will be either more or less efficient than private firms. The efficiency of cooperatives depends on a wide range of factors both internal and external to the organization.

The theory of industrial organization does, however, make strong predictions about the positive impact of cooperatives on the competitiveness of markets in the presence of concentrated market power. This somewhat neglected theory holds that agrarian marketing cooperatives will tend to improve the competitiveness of agricultural purchasing markets when monopsony power is present, by providing a benchmark price that exceeds that offered by a private purchaser with market power. This result, however, will not obtain if cooperatives' operating costs are significantly higher than those of private purchasers.

Fair trade arrangements, including FLO certification, can thus play a role in the emergence of cooperatives through the provision of higher prices to cooperative members. Economic support, via either informal fair trade arrangements or formal FLO certification (see Chapter 2), can play an important role in the development of cooperatives. In addition to improving members' welfare through higher incomes, fair trade arrangements can improve the efficiency of cooperative operations through the provision of information about quality standards and demand conditions prevalent in markets in consuming countries or regions. The higher prices offered by FLO certification and other fair trade arrangements can provide spillover benefits to non-members by increasing the competitiveness of rural purchasing markets, raising regional farmgate prices.

Though the debate about agrarian marketing cooperatives is longstanding, its relevance has increased in recent years. The retreat of the state from service provision to small agriculturists has revived interest among both scholars and practitioners of rural development in the potential role of non-state civil society organizations in alleviating poverty and improving farmer welfare. (Bebbington 1996, de Janvry and Sadoulet 1993a, de Janvry and Sadoulet 1993b, Evans 1996, Molinas 1997, Thorbecke 1993, Uphoff 1993) Successful cooperatives achieve these goals by providing small rural producers with higher farmgate prices, access to credit, technical assistance, market information, and other important services. In development practice, autonomous cooperatives have emerged alongside complementary civil society organizations, often with assistance from international NGOs.

This chapter will proceed as follows. Section 4.2 provides a broad definition of cooperatives, drawing upon the work of the International Cooperative Alliance, and then explains a more narrowly economic definition of agrarian marketing cooperatives from the agricultural economics literature. Section 4.3 describes in some detail the specific structure and functions of agrarian marketing cooperatives, setting up the theoretical and empirical discussions that follow. Section 4.4 reviews economic theories specific to the agrarian marketing cooperative, identifying potential advantages and drawbacks of this organizational form in comparison to purely private purchasing arrangements. The chapter provides econometric evidence when it bolsters or refutes the arguments proposed. Section 4.5 reviews selectively the large and disparate case-study literature devoted to the impact of agrarian marketing cooperative formation and development in rural regions of the developing world. This section demonstrates a large diversity of experiences with agrarian marketing cooperatives, which range from an unequivocal demonstration of positive benefits to an equally clear demonstration of corruption and mismanagement. Section 4.6 draws upon sections 4.2 and 4.5 to outline a simple mathematical model of the potential impact of fair trade (FLO) certification upon a hypothetical agricultural cooperative. Section 4.7 concludes the chapter by arguing that the impact of agrarian marketing cooperatives on the welfare of small farmers is potentially large and positive, but is also highly context-specific and must be examined on a case-by-case basis. Theory can provide us with a guide to research design, data collection and analysis, but cannot by itself predict whether a cooperative will improve or detract from the welfare of its participants, nor whether a cooperative will succeed or fail.

4.2. Cooperative Enterprise: Broad and Narrow Definitions

The International Cooperative Alliance (ICA), the international umbrella organization for cooperatives, defines a cooperative as follows: “An autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.” (ICA website, 1995)

Cooperatives can take many forms. Weitz (1993) distinguishes between three broad types of cooperatives. *Production cooperatives* are member-based organizations in which members engage collectively in production and democratically govern the production process. *Economic service cooperatives* are member-based organizations in which individual self-employed producers form a democratic organization to provide services such as value-added processing, marketing, technical assistance, input purchase, or credit. *Social-municipal cooperatives* are member-based organizations in which individual member households organize to provide or purchase collectively social services such as education, health care, basic consumer goods, utilities, transportation, or other such amenities.

Following the above taxonomy, the first type of cooperative includes collective farms and collectively owned factories. These cooperatives can be state-run, as in the collective farms and factories of Soviet Russia or China under Mao; alternatively, they can be privately owned and operated, as in the plywood cooperatives of the Pacific Northwest (Craig and Pencavel 1995) or the factories of the Mondragon cooperative complex of the Basque country (Whyte and Whyte 1991).²⁰ The second type of

²⁰ The Mondragón system is actually much more complex than merely a collection of stand-alone producer cooperatives; the central cooperative bank, the Caja Laboral Popular, plays a very important role in

cooperative includes the agrarian marketing cooperatives that are the focus of this chapter, as well as organizations of independent artisans such as those described by Grimes and Milgram (2000). The third type of cooperative includes housing cooperatives such as those found in major cities (e.g. New York), as well as food consumer cooperatives such as Northampton, MA’s River Valley Market and Greenfield, MA’s Franklin Community Cooperative. The third type also includes cooperative organizations that purchase utilities services for their members, such as electricity and telephone services. Electric utility cooperatives are common in various regions of the United States, including Minnesota, Montana, and the Southwest.

Cooperatives’ basic principles stem from the Rochdale pioneers of Lancashire, England, who founded a group of consumer cooperatives in 1844. Though the Rochdale pioneers began their work in social-municipal cooperatives (the third type of organization listed above), their principles have become widely adopted by cooperatives of the first and second types as well. The ICA undertook its latest revision of the Rochdale principles in 1995. The principles adopted are listed in Table 4.1 below.

Table 4.1. The Rochdale Principles	
1	Voluntary and Open Membership
2	Democratic Member Control
3	Member Economic Participation
4	Autonomy and Independence
5	Education, Training and Information
6	Cooperation Among Cooperatives
7	Concern for Community

directing credit towards the enterprises and even plays a governance role in them at times. For details, see Whyte and Whyte (1991).

The Rochdale principles outline clear and noticeable differences in character between cooperatives and profit-oriented firms. The second and third principles provide prime examples of these differences. Following the second principle, cooperatives are membership-based organizations in which the members control the organization through democratic deliberation and the delegation of authority to elected representatives. These processes of deliberation and control entail regular meetings and elections, in which every member participates either directly or indirectly through a delegate. Following the third principle, members share in both the investment and the economic output of the organization. All members purchase shares upon joining the cooperative; profits are distributed to members in the form of dividends, as well as retained by the organization in accordance with the policies agreed upon by the members. This practice differs sharply from profit-oriented firms, who distribute profits to shareholders, the vast majority of which are not workers or producing members of the firm.

Cooperatives differ in their relationships with the outside world as well as in the form of their internal organization. The sixth and seventh principles illustrate these differences, which are equally dramatic. Cooperatives state the intention to cooperate with one another, rather than compete; they participate in regional, national and international organizations for mutual benefit, and articulate complex, long-term agreements among themselves. Cooperatives also state their commitment to the welfare of the community in which they take part, including the preservation of the local ecosystem and the welfare of those community members who are not part of the cooperative.

Agricultural economists working in industrialized countries have long studied agrarian marketing cooperatives as important forms of rural organization. A benchmark formal definition of agrarian marketing cooperatives can be traced to Helmberger and Hoos (1962). These authors define an agrarian marketing cooperative as an aggregation of independent agrarian production units that seeks to maximize the economic welfare of those units, without making profits for itself. Formally, an agrarian marketing cooperative produces output Y as a function of an agricultural raw material M supplied by its members, a number of purchased or contracted variable inputs X_n , and a fixed capital outlay Z , purchased or contracted jointly. In this formulation, the variable inputs X_n include the inputs and services contracted by the cooperative as a whole, and not those purchased for use on the members' farms. The most general form for a cooperative production function is given by equation (4.1) below:

$$(4.1) \quad Y = Y(X_1, \dots, X_n, M | Z)$$

Equation (4.1) provides the broadest possible description of the cooperative's process of transforming inputs into outputs.

In order to understand the incentives and constraints on the output function defined in equation (4.1), it is important to articulate precisely the cooperative's objective function. A first formulation of a cooperative's objective function is represented by equation (4.2) below. Equation (4.2) is a cooperative profit function, which returns a variable denoted Π . The variable Π refers to the quantity of income, denominated in currency units, that remains after raw material has been purchased from members, fixed investments have been paid for, and inputs have been purchased or contracted. In

equation (4.2), P_y refers to output price, P_m refers to the price of the raw material, the vector P_i refers to the prices of N additional inputs indexed X_i , and F refers to fixed costs.

$$(4.2) \quad \Pi = P_y Y - \sum_{i=1}^N P_i X_i - P_m M - F$$

Function (4.2) is of limited use in analyzing cooperatives. Cooperatives' stated objective is to maximize the welfare of their members, which in this narrow definition consists of maximizing their income. The members are the providers of the raw material to the firm; members' income thus includes the cost outlay on raw material, $P_m M$. One way to ensure that the members' income is maximized is to restrict cooperative profit to be zero, and maximizing instead the quantity $P_m M$, which Helmer and Hoos (1962) can call *surplus*, and denote by the variable S . The resulting maximization problem is given in equation (4.3) below:

$$(4.3) \quad \max_x S = P_y Y - \sum_{i=1}^N P_i X_i - F$$

To maximize surplus S , the cooperative chooses the least-cost combination of inputs X_i , given output price and volume, input prices P_i , and fixed costs. A cooperative that successfully chooses the least-cost combination of inputs can be said to be *allocatively efficient*.

4.3. Agrarian Marketing Cooperatives: Structure and Functions

To understand fully the nature of agrarian marketing cooperatives, we must describe their structure and functions. Agrarian marketing cooperatives are membership-based organizations that provide inputs, technical assistance, post-harvest processing, storage, quality control, and marketing services to a number of small, independent agrarian producers or farmers. The structure of these organizations consists of a membership of farming households led by an elected board of directors, sometimes called

a governing council. A salaried professional staff, under the direction of a general manager, oversees the everyday operations of the cooperative. Members pay a fixed membership fee upon joining the cooperative and are entitled to a single vote in the cooperative assembly. All members may stand for election to the board of directors.

This section raises three important topics in the study of agrarian marketing cooperatives. First, I discuss the relationship between management and governance, an important factor in cooperative organization. Second, I outline potential economies of scale and scope in cooperative service provision, which provide an important theoretical justification for cooperatives' existence. Third, I compare the agrarian marketing cooperative to purely private agricultural purchasing arrangements, in which individual farmers undertake large numbers of one-time transactions with private intermediaries who represent investor-owned marketing and exporting firms. I demonstrate in this third section the potential advantages that cooperatives may offer to their members, compared to non-members who must undertake all of their transactions on spot markets. All concrete examples in this section will come from Peruvian coffee cooperatives.

4.3.1. Management and Governance

The organizational structure of agrarian marketing cooperatives entails the separation of management from governance. Trained professionals perform management functions, while elected officials from the membership are in charge of organizational governance. The separation of management from governance reduces the degree of direct democratic participation in the everyday affairs of the cooperative. However, it also increases the efficiency of everyday operations. If the policies and practices pursued by

management come into conflict with the objectives of the members, those policies may be changed through a modification of the cooperative's statute.

Management functions include the provision of the suite of cooperative services described in the previous sections of this chapter. To reiterate, these services include technical assistance, marketing, procurement of inputs, supervision of post-harvest processing, quality control, and cultivation of client relationships. Performing these functions predominantly requires a high school level of education or above, including a relatively high degree of literacy or numeracy, in addition to subsequent technical, financial, or managerial training. To oversee operations effectively, managers require extensive experience with either cooperatives or similar agrarian organizations. The general manager oversees all management functions, including hiring and dismissal of salaried professional staff.

Governance functions include the monitoring of management, auditing of accounts, strategic planning, member education, and the formation and amendment of the cooperative statute and by-laws. In Peruvian coffee cooperatives, governance typically is split between two major bodies. The governing council (*Consejo de Administración*) hires, reappoints, and dismisses the general manager, advises management on issues of strategic planning, and informs the management of concerns that are important to the membership. The audit committee (*Consejo de Vigilancia*) oversees managerial operations and audits the cooperative's account books. Most of the Peruvian coffee cooperatives also have a separate education committee (*Comité de Educación*) devoted to training members in cooperative principles. In addition, some cooperatives have

committees devoted to women's participation, and committees devoted to programs for youth.

The cooperative's governance structure mandates equality in representation in the governing assembly, but the organization pays its members commensurate with the volume of product they deliver to the cooperative. Hence, inequalities in the distribution of land or crop yields among the cooperative's population will be reflected in the distribution of income from the cooperative. These inequalities can give rise to distortions in governance that can negatively affect both the welfare of the poorer members and the overall efficiency of the organization. Empirical evidence, reviewed in Section 4.5, demonstrates that these distortions can be quite large.

4.3.2. Economies of Scale and Scope

In serving a large number of members with a broad range of services, cooperatives exploit both economies of scale and economies of scope (Molinas 1997, Schroeder 1992). Economies of scale are evident in the provision of both physical inputs and services to farmers. Inputs cost less per unit when purchased in bulk. The cost per unit of technical assistance is lower for a single technician to instruct a group of farmers than to instruct each farmer individually. A single, large warehouse provides cheaper and more hygienic storage than a large number of makeshift storerooms in farm households. Efficient marketing requires fixed up-front investments in communications technology, expertise in managing client relationships and flows of information about conditions of supply, demand and prices, and travel to business conferences and trade shows with the aim of attracting new clients.

Economies of scope exist when the various services offered by the cooperative complement one another. For instance, the provision of technical assistance to farmers ensures the continuous improvement in the quality of the output, which complements the quality control function of the enterprise and ensures higher output prices. The various components of technical assistance, such as pest control, fertilization, erosion control, and technology adoption, all complement each other in producing higher quality and yield. Higher quality in turn complements the cooperative's marketing service, allowing the manager and sales representatives (if any exist) to demonstrate the product's superior attributes and thereby sell a larger quantity at a higher price in a shorter period of time.

The existence of economies of scale and scope provides a powerful theoretical justification for cooperative organizations' existence. Separate organizations, each providing a separate service to the farm household, would be unlikely to coordinate the provision of services optimally, and might in fact compete with one another. A non-democratic, investor-owned organization might provide all services at once to a group of farmers, but such an organization would likely charge a high markup on such services in the absence of robust competition from other firms. Even if multiple firms were operating in the region, collusion would remain a danger, especially if local or regional judicial and law enforcement institutions were inefficient or corrupt. In addition, such organizations' profit orientation and lack of producer representation would make them less responsive to the specific needs of the farmers in question. In the Peruvian coffee industry, an increasing number of privately owned firms have begun providing technical assistance to growers; however, this assistance has only recently begun to be provided, long after the cooperatives had begun to reduce the private firms' market share.

4.3.3. Comparison of Cooperatives and Private Purchasers

Agrarian marketing cooperatives can be compared to the absence of any agricultural producers' organization, in which producers undertake individual transactions with private intermediaries in the output market. The advantages of marketing cooperatives to farmers over individual transactions can be summarized in the following six points. First, cooperatives' use of existing community structures as bases for larger organizations allows them to create organs of governance that are highly responsive to members. Second, cooperatives' membership requirements encourage long-term commitments, through share capital provisions that members must contribute in order to join. Members' share investments in cooperatives require them to make decisions over a longer time horizon than they would if dependent entirely on spot market transactions. Third, developing country cooperatives tend to be effective in attracting and managing flows of assistance from foreign aid agencies and NGOs (Marshall and Roesch 1993). Fourth, cooperatives' relatively tight-knit organizational structures allow for more rapid diffusion of technical knowledge than that of private firms, who depend on casual, spot-market transactions with their suppliers. Fifth, the buildup of cooperative-owned productive assets in the reprocessing, storage, transport and marketing of produce underpins economic stability and self-sufficiency in the cooperatives' base communities, provided those assets are not overly costly to maintain or difficult to use. Sixth, a cooperative's democratic structure increases individual producers' knowledge of marketing, administration, and governance of a complex organization, which, it can be argued, constitute investments in the producers' human capital (Becker 1962).

The above six points rest on the presumptions of the responsiveness of cooperatives to membership, in the context of tightly knit communities that are willing

and able to acquire and manage productively a portfolio of physical and organizational assets, plan for long-term investments in output growth, attract funding on favorable terms from outside sources, and make effective use of market information to improve upon existing production practices. These presumptions hold true for some communities, and not others.

Cooperatives also possess distinct disadvantages with respect to the private market, which are summarized in the following six points. First, the cooperatives' democratic governance structure may impede efficient decision-making. Second, diffuse ownership may lead to underinvestment in capital assets, as well as less than optimal monitoring of hired staff. Third, multiple social and economic objectives of the cooperative may conflict with one another, undermining organizational efficiency. For instance, cooperatives may be tempted to address social issues outside their scope, such as health and nutrition programs, provision of clean water and other public utilities, and the like. These expansions may reduce the productivity of the core services (Lele 1981). Fourth, low levels of education among the membership, combined with poor information transmission between hired staff and elected officials may lead to ill-informed decision-making. Fifth, the relatively elaborate governance structure may pose high financial and organizational costs that detract from members' own incomes and livelihoods. Sixth, inefficient governance and management, including corruption, may undermine the cooperative's competitiveness and erode its members' loyalty. Slow or inefficient information transmission from governors to members, or inability of members to monitor governors, may increase scope for this process.

The above six arguments rest upon the premises that cooperatives exist in environments dominated by poverty and scarcity, in which short-term needs are always in conflict with long-term objectives. Agents are presumed to be poorly educated and selfish, and organizational tasks are assumed to impose significant burdens on household labor time. These presumptions, likewise, may hold for some communities at some times, but not others.

In summary, there is no reason to presume *a priori* that cooperatives are either more or less economically efficient than decentralized purchasing arrangements by means of intermediaries. Theories of agrarian cooperation, based on radically different premises, have reached radically different conclusions on the question of cooperative efficiency. Subsequent theories have introduced nuances to these arguments by articulating precise conditions under which cooperatives may be more or less economically efficient. To these theories I now turn.

4.4. Economic Theories of Agrarian Cooperation

This section provides a selective review of the theoretical and empirical literature on agrarian marketing and service cooperatives. This rich but diffuse literature provides contrasting and in some cases directly contradictory arguments about the advantages and disadvantages of agrarian marketing cooperatives.

I begin this review, in section 4.5.1, by summarizing three distinct but interrelated points made about the nature of cooperative enterprise in general. I then proceed to examine three sets of distinct arguments about agrarian marketing cooperatives more specifically. In section 4.5.2, I examine studies of the relationship between the cooperative form of organization and the economic efficiency of the enterprise. In section

4.5.3, I discuss the role of cooperatives in the process of inter-firm competition in the market for raw agricultural produce. In section 4.5.4, I review theories of the relationship between intra-cooperative inequality and organizational performance. These studies begin their analysis from very different standpoints and, not surprisingly, reach substantially different conclusions about the nature of the cooperative enterprise and its place within a market-based economy.

4.4.1. The Question of Efficiency

Both neoclassical and heterodox thinkers have analyzed the cooperative form of organization. Neoclassical theories of cooperative organization argue that the cost of democratic participation, the short time horizons of workers, and the financial risk to workers inherent in non-tradability of ownership shares, all conspire to make cooperatives a less efficient form of organization than investor-owned firms. Heterodox theories of cooperative organization hold, by contrast, that investor-owned, wage-paying firms are necessarily less efficient than cooperatively owned or “democratic” firms. Excessive levels of monitoring of workers, due to misaligned incentives between workers and managers, ensure the inefficiency of investor-owned firms. When workers are made residual claimants on output, the incentive problem disappears, and the monitoring problem along with it. Bowles and Gintis (1993) provide a defining heterodox treatment of the incentive problem in investor-owned firms.

Porter and Scully (1987) provide a defining neoclassical study of agrarian marketing cooperatives. They argue that such organizations are necessarily inefficient due to three principal problems: the horizon problem, nontransferability of shares, and the control problem between workers and managers. The horizon problem stems from the

fact that unlike shares of stock, shares in cooperatives cannot be bequeathed. Hence, a self-interested representative member will tend to underinvest in cooperative assets, since the member will not reap the full benefit of the asset. The nontransferability problem stems from the fact that shares in cooperatives cannot be traded. Hence, members cannot diversify or concentrate their asset portfolios to reflect their preferences for risk. The control problem stems from the dispersion of shares among a large group of members. Following Olson (1965), the authors argue that a more dispersed ownership will find it more difficult to monitor and control management effectively. Democratic deliberation and decision-making will be made more difficult for the same reason. Using data from a series of milk-processing cooperatives and private firms in the United States, the authors find that the cooperatives consistently underperform the private firms in terms of allocative efficiency. This relative inefficiency stems primarily from inferior choices of technique, which suggests less competent management.

Such results, however, have not been borne out by empirical studies of cooperatives from different countries and regions. Carter, Melmed-Sanjak and Luz (1993), in their study of land-reform cooperatives in Honduras and Nicaragua, find that the cooperatives performed identically to privately owned plots in some of the measured cases; in other cases, the cooperatives outperformed the private plots. The organizations under examination in this study differ from those examined by Porter and Scully (1987), in that the cooperatives under examination are agricultural producers' cooperatives (APC), or group farms, rather than agricultural marketing and service cooperatives. However, insofar as the APC entail an even greater degree of labor pooling and asset sharing than the marketing cooperatives in the previous study, one would expect to see

even greater inefficiency problems than in marketing cooperatives. The results, however, are the contrary. The study is potentially subject to selection bias: farmers who prefer cooperation may self-select into group farming arrangements. Nonetheless, the results strongly suggest that collective production, *per se*, cannot be rejected *a priori* on grounds of inefficiency.

Turning to the coffee industry, the available evidence suggests that cooperatives tend to be less efficient than their non-cooperative counterparts along some dimensions, but more efficient along others. To understand this result, we must distinguish between four dimensions of efficiency: technique, allocation, price, and scale. Technical efficiency (TE) refers to the choice of production technique adopted by the cooperative. A production process is technically efficient if the technique is the most efficient one that could have been chosen from all possible alternatives. Allocative efficiency (AE) refers formally to the equalization of ratio of marginal products to input prices in the employment of factors of production. This condition is identical to the condition that the cooperative chooses the least-cost combination of inputs. Price efficiency (PE) obtains whenever the cooperative's output price is equal to marginal cost of production: $P = MC(Q_i)$. Finally, scale efficiency (SE) obtains whenever the cooperative chooses the optimal level of capacity.

Mosheim (2002) discovers that Costa Rican coffee marketing cooperatives are more allocatively efficient, less scale efficient, and not significantly different in terms of technical or price efficiency, than their investor-owned counterparts. Though the national, historical and social context is different, the organizational form of the Costa Rican cooperatives and private firms is analogous to the milk-processing cooperatives and firms

studied by Porter and Scully (1987). To perform this study, Mosheim uses a seemingly unrelated regressions (SUR) model on the four measures of efficiency discussed above. Efficiency measures are developed using data envelopment analysis (DEA), which defines a best-practice frontier against which each firm's performance is measured. To reiterate the key findings, Mosheim finds that cooperatives and investor-owned firms (IOF) exhibit no statistically significant differences in price or technical efficiency; however, cooperatives have a higher level of allocative efficiency and a lower level of scale efficiency than IOFs.

Mosheim hypothesizes that the lower level of scale efficiency exhibited by the cooperatives stems from a higher cost of administrative control. Costa Rican coffee cooperatives tend to aggregate small deliveries of coffee beans from a large number of relatively small farmers. By contrast, private (investor-owned) Costa Rican processing firms tend to aggregate larger deliveries of coffee beans from a smaller number of relatively large farmers. Due to the cooperatives' handling smaller amounts of coffee per purchasing transaction, the optimal quantity of coffee beans for a cooperative to collect and process may be smaller than that of an investor-owned firm (IOF). If the two organizational types use the same processing technology, and excess capacity in the industry exists, then cooperatives will tend to be less scale efficient than IOFs. The Costa Rican coffee industry exhibits both the above characteristics, supporting the hypothesis.

In a separate regression, Mosheim measures the determinants of scale efficiency among coffee cooperatives only. He finds that larger average cooperative member farm size entails a higher degree of scale efficiency, corroborating the hypothesis further. The

preferential treatment that IOFs offer to large farmers in Costa Rica may make it difficult for cooperatives to attract these farmers to their membership.

In summary, we have no *a priori* reason to assume either superior or inferior efficiency on the part of cooperative organizations *vis-à-vis* investor-owned firms. The ambiguous relationship between the cooperative form of organization and strictly economic measures of efficiency has been borne out by additional studies, most notably that of Craig and Pencavel's (1995) empirical study of the plywood firms of the Pacific Northwest of the United States. The plywood cooperatives demonstrate higher output per raw material input, but lower output per labor input, than the investor-owned firms. The theoretical advantages and disadvantages of cooperatives with respect to investor-owned firms can be tallied up alongside each other, but no amount of theorizing will reach a definitive conclusion as to whether the advantages outweigh the disadvantages or *vice versa*. Careful examination of data is essential in measuring the relative efficiency of cooperatives; different results will obtain in different contexts.

4.4.2. Competition

In focusing on the efficiency of the individual firm, the previous section ignores the impact of the agrarian marketing cooperative on the structure of the local or regional agricultural output market. Yet the presence of regional-level imperfect competition in agriculture affects the extent to which cooperatives may benefit the workers or farmers in that sector. When competition is imperfect, the presence of a cooperative may induce outcomes that mitigate the market power of large purchasing firms, and mimic more closely the neoclassical ideal of perfect competition. The predominance of large traders in the market for agricultural raw materials thus indicates that cooperatives may play an

important role in enhancing the welfare of farmers. This section elaborates upon the pro-competitive argument in favor of agrarian marketing cooperatives.

Rogers and Sexton (1994) make a strong case for the prevalence of market power by large-scale agricultural traders. They argue that high shipping costs, lack of substitutability of the raw product in the creation of processed food products, and barriers to exit from farming due to high sunk costs all make buyer power (monopsony or oligopsony) the norm in the purchasing of agricultural raw materials. Available evidence indicates that these arguments hold true in multiple regions of the developing world. Focusing on coffee markets in the Mexican state of Chiapas, Milford (2004) reports that coffee exporters and processors, which are the firms that purchase the raw beans from farmers, face high barriers to entry, and economies of scale over a relevant range of purchasing volumes. These features of the market suggest that monopsony power is present. In Peru, data from the Junta Nacional del Café reveal a high degree of concentration among coffee exporters: in 2009, the four-firm concentration ratio among this group of firms was 48.7% (JNC 2009). Osborne (2005) provides yet more support for Rogers and Sexton's claim using data from Ethiopia. Her econometric analysis demonstrates imperfect competition in small-volume rural purchasing markets for staple grains. She also cites anecdotal evidence on asymmetric information between traders and farmers, collusion among traders, and barriers to entry in wholesale trading. The above studies suggest that we have good reason to believe that imperfect competition characterizes agricultural purchasing markets in general, including those in industrialized and developing countries, and including coffee markets.

The work of Peter Helmberger (1964) suggests that agrarian cooperatives may improve the welfare of farmers in situations where local processing firms or traders enjoy monopsony power. Helmberger analyzed the impact of cooperative processing and marketing firms in a setting of many small, independently producing farms. His study demonstrated that when conditions of processing and marketing are that of oligopsony in raw material purchasing, but competitive in the sale of processed output, then cooperative marketing arrangements are likely to move the market price and quantity towards the competitive equilibrium and away from the monopsony price and quantity purchased. The introduction of a cooperative can thus reduce the monopsonist's surplus. The world conventional coffee market follows approximately this pattern, in which relatively large regional or national export firms purchase from a large number of relatively small farmers; the firms then compete among one another in the international market.

A related result obtains when both input purchasing and output sales are imperfectly competitive, and firms have established relatively fixed market shares. In this situation, the impact of introducing a cooperative may be dramatic. We can envision this scenario in terms of a large group of small farmers facing both a small group of large-scale input suppliers and a small group of large-scale output purchasers. An illustrative concrete example comes from U.S. agriculture, where small corn and soybean farmers purchase from large input conglomerates such as Monsanto, and sell into purchasing markets dominated by large grain traders such as Cargill. In such a scenario, a multi-tiered price structure may emerge upon the introduction of cooperatives. Cooperatives will emerge to compete with the output traders (e.g., Cargill) and pay dramatically higher prices to their member suppliers than the output traders pay to theirs. This price

difference may give rise to significant spillover effects, leading the output traders to raise their price offers. In Helmberger's words,

“the cooperative will point up and emphasize any oligopsonistic exploitation of producers that might be present. The greater the exploitation, the larger will be the differential between price returned to members and that received by nonmembers. Cooperative marketing would appear to act as a barometer, measuring the downward pressure of oligopsonistic market conduct on prices received by the primary producers.” (Helmberger 1964, 616)

Sexton and Iskow (1993) use Helmberger's “barometer of exploitation” framework to argue for public policy support of agricultural cooperatives. In their model, local monopsony power emerges when competing agricultural processors carve out relatively stable zones of influence in a given region, then tacitly (or explicitly) respect each other's territory, entailing collusion. Cooperatives play the role of a “competitive yardstick,” breaking the pattern of collusion among private traders.

Milford (2004) extends Sexton and Iskow's analysis to apply to coffee cooperatives, using the insights therein to discuss the potential impact of fair trade. Milford's model begins by comparing and contrasting three market structures: a competitive firm, a monopsonist, and a cooperative. The competitive (price-taking) firm's profit function can be shown as follows:

$$(4.4) \quad \Pi = Px(q) - \underline{w}q - F$$

In equation (4.4), P refers to the international market price, x the volume of coffee sold; \underline{w} is the exogenously given purchase price from the farmers, and q the volume purchased from the farmers. F refers to fixed costs. Note that the competitive firm in this setting is a price taker both in its purchases and sales. Now contrast this situation with that of the monopsonist:

$$(4.5) \quad \Pi = Px(q) - w(q) \times q - F$$

In equation (4.5), the purchase price w varies with the volume purchased from the farmers, q : $w=w(q)$. From equation (2) we can derive the first-order condition for the profit-maximizing monopsonist: purchase the quantity of coffee beans that sets marginal revenue product equal to marginal purchasing cost:

$$(4.6) \quad Px'(q) = w(q) + w'(q) \times q$$

It can be easily shown that a firm facing this profit function purchases from the farmers a lower quantity, at a lower price, than under competitive conditions.

A cooperative monopsonist leads to very different market conditions than a private monopsonist. The exact result depends on whether the cooperative seeks to maximize income per member, or whether it seeks to expand to the point of maximum total output. If the cooperative aims to maximize income per member, its profit function appears as follows:

$$(4.7) \quad \Pi = Px(q) - c(q) - F$$

In equation (4.7), $c(q)$ refers to the farmers' aggregate production cost incurred in producing quantity q . The maximization of profits under these conditions leads to the first order condition , which occurs at the intersection of the cooperative's marginal revenue product curve with the farmers' supply curve. This result entails identical price and purchasing outcomes as prevail in competitive equilibrium. If, however, the cooperative seeks to maximize total output, it will choose to purchase from the members the quantity that equates unit price to average revenue product. Formally, this quantity is found by setting equation (4.5) above equal to zero and rearranging to form equation (4.8):

$$(4.8) \quad \frac{Px(q) - F}{q} = w(q)$$

The left-hand side of equation (4.8) represents the average revenue product of the cooperative, and the right-hand side the purchase price. The quantity purchased by an output-maximizing cooperative will exceed that of an income-maximizing cooperative, and its purchase price will be lower.

The conclusion drawn by Milford, Helmberger, and Sexton, is that a market in which a cooperative and a private firm (investor-owned firm, or IOF) compete with one another produces outcomes more favorable to the farmers than a market consisting only of private firms. Milford extends this analysis to answer the question of the cooperative's membership policy. Cooperatives may have either open or restricted membership. If the cooperative's membership policy is open, the cooperative forces the IOF to pay the price that reflects the cooperative's maximization. If the cost conditions of the two firms are identical, this price will always be higher than the one that the IOF would have voluntarily paid. Cooperative theorists such as Helmberger (1964) and Sexton (1990) call this effect the "competitive yardstick." If the cooperative restricts membership, the result will be a two-tiered market, with a higher price paid to the members of the cooperative. In some cases the lower price paid by the IOF may be even lower than the monopsonist equilibrium price. Yet this market structure may also induce the non-member farmers to demand higher prices from the IOF, or form their own cooperative. Cooperative theorists argue that under these conditions, the cooperative's higher price acts as a barometer of exploitation (Helmberger 1964).

This analysis would appear to offer unequivocal support for cooperatives. However, in real-world agricultural markets, cooperatives' operating costs are often

higher than those of IOFs, which complicates the issue. As discussed in Section 4.4, cooperatives' higher costs may stem from either inefficient operations or the provisions of social and technical services not provided by IOFs. If the cooperative's per-unit costs are higher than those of the IOF, the cooperative's price offers may not exceed the IOF's, and it will not fulfill its role as a competitive yardstick or barometer of exploitation. In this case, a subsidy or a tax exemption provided to the cooperative will shift its marginal revenue product curve outwards, allowing it to pay higher prices and restoring its role as an enhancer of market competition. Subsidies may either come from governments, or consumers in the form of voluntary premiums, such as those offered by fair trade arrangements.

Hence, fair trade arrangements may accomplish more than offering higher and more stable prices to the farmers under their purview. For the reasons given above, fair trade may improve the competitiveness of agricultural purchasing markets dominated by monopsonistic firms, increasing the price paid to all farmers. The benefits that cooperative members receive from participation in Fair Trade may thus spill over into the market at large, benefiting all the farmers in the region. In addition, as Ronchi (2006) demonstrates (see Section 4.6), participation in Fair Trade certification may improve the efficiency of cooperatives, compounding the benefits of the subsidy.

In summary, both theory and evidence suggest that cooperatives may enhance the competitiveness of agricultural purchasing markets. Fair trade arrangements may thus indirectly improve the welfare of all farmers in a given region through financial and organizational support for cooperatives. Other economic and social factors may impede

the operation of cooperatives, reducing their benefits. Regional inequality in land endowments is just such a factor, and I now turn to studies of its impact.

4.4.3. Inequality, Efficiency and Rent Seeking

The relationship between inequality and the success of cooperative enterprise is controversial. The arguments rest on more fundamental economic and political theories about the relationship between inequality of endowments and collective action. Olson (1965) argued that inequality enhances collective action in groups by providing stronger incentives to a small subgroup that stands to benefit to a disproportionately large extent from the action taken by the larger group. This subgroup will assume responsibility for organizing and implementing the collective action plan. By contrast, Boyce (2002) argued that inequality impedes collective action by increasing the ability of a powerful minority to impose rules of the game unfavorable to the majority. Empirical studies show that either or both of these tendencies may be at work in agrarian cooperatives.

An important empirical case study from a number of sugar cooperatives in the Indian state of Maharashtra revealed that asset inequality caused a decline in the efficiency of cooperative operations. Banerjee, Mookherjee, Munshi and Ray (2001) develop a theoretical model and regression analysis of data from 100 of Maharashtra's sugar cooperatives. The data show that inequality in landownership lowered the sugar cane price paid to all cooperative members below its optimal level. Within the cooperatives, large growers exert disproportionate control, which allows them to influence the use of retained earnings for non-investment purposes. The laws governing cooperatives mandate a uniform cane price paid to all growers; hence, large growers prefer a lower purchase price for the growers, and a higher level of retained earnings.

These earnings are then spent on prestige projects that enhance the reputation of the large growers, rather than on investments in processing capacity. The presence of a few large growers in positions of authority thus induces rent seeking. However, the authors show that when small growers represent a large share of the membership of the cooperative, the rent seeking of the large growers is balanced by the increased control over the cooperative by the small growers. They call this latter tendency the *control shift* effect.

Evidence on the inequality-efficiency relationship from Paraguayan cooperatives reveals a different result, based on a different measurement of inequality. The relationship between land inequality and agrarian cooperative performance follows an inverted-U shape: very egalitarian and very inegalitarian cooperatives exhibit relatively low performance, while moderately inegalitarian and moderately egalitarian cooperatives exhibit relatively high performance. Molinas (1997) reveals this relationship through a cross-sectional study of 104 cooperatives in Paraguay, using a multivariate regression model with a composite measure of cooperative performance as the dependent variable. The study uses the Gini coefficient on land within the cooperative as the defining inequality measure. The coefficient of this variable in the performance regression is positive and significant (at the 5% level) in the performance regression, while the coefficient on the square of the Gini is negative and significant (at the 10% level). The remaining exogenous regressors include an index of social capital, the fraction of households in the community who belong to the committee, the tenure of the current leadership, and the degree of external assistance. Questions of rent seeking do not play a role in this study, and the measurement of inequality is different. Hence this study is not directly comparable to that of Banerjee et al. (2001).

Just as inequality need not inevitably result in inefficiency within cooperatives, inefficiency need not always result from inequality. For example, the poor performance of Kenyan coffee cooperatives since the 1998 reform law can be explained without reference to inequality (Mude 2006). The reforms of 1998 devolved authority over Kenya's coffee cooperatives from the government to the members. Subsequently, prices paid to growers dropped and incidence of mismanagement increased. In the absence of credible mechanisms to monitor and sanction officials, vote buying became a viable electoral strategy. Mude (2006) models the process of forming a cooperative and electing a leadership as an n -person Prisoner's Dilemma with homogeneous agents. In his voting model, accepting bribes by corrupt electoral candidates is a dominant strategy for rational voters. The author traces a chain of causation from corrupt governance to farm-level technical inefficiency, which examination of the data from nine coffee cooperatives supports. The empirical portion of the study demonstrates that a low level of cooperative performance, as measured by payments to farmers and quality of output, is a statistically significant determinant of technical inefficiency at the farm level.²¹ These results imply that enhancing the competitiveness of coffee purchasing may increase both farmers' shares of the final price and the efficiency of farm production. The monopsony of cooperatives can be as dangerous to farmer welfare as the monopsony of private traders.

In summary, the profound disagreement among economic theorists about the efficiency properties of cooperatives in general – and agrarian marketing cooperatives *a fortiori* – has been borne out by the contradictory empirical evidence on cooperatives' performance. No unified theory or even theoretical framework to explain the pattern of

²¹ In Mude's analysis, cooperative performance is a variable generated through factor analysis; payments to farmers and output quality are two of the largest factor loadings.

successes and failures in cooperative formation and development has yet emerged. While a hardy perennial of economic research - discussion of cooperative enterprises in economics dates back to John Stuart Mill – the subject has nonetheless suffered from extended periods of neglect, which has made the generation of a sustained and productive debate on the subject difficult.

The majority of systematic studies of agrarian marketing cooperatives – and cooperatives in general – take the form of qualitative, descriptive case studies rather than mathematical economic theory or econometric analysis. Many, if not most of these case studies arise from social sciences other than economics, predominantly sociology or anthropology. Any reasonably comprehensive review of the development of agrarian marketing cooperatives must take account of the evidence from these case studies, which is as diverse as that of the formal studies. The evidence presented in these case studies is not only worthy of examination in its own right, but contains some important implications for future studies of cooperatives from any disciplinary perspective, including economics. The next section of this chapter summarizes and compares the results of these case studies.

4.5. Case-Study Evidence on Cooperative Performance

This section synthesizes the case-study literature on two waves of agrarian marketing cooperatives in developing countries, the largest such waves to date. The first wave of cooperatives occurred during the aftermath of colonialism, often with heavy support from newly formed post-colonial states, and occasionally bolstered by (minimal) foreign aid. A few of these cooperatives became self-sufficient and survive to this day; others perished for a variety of reasons: corruption, excessive bureaucratic control, and

political or economic chaos including rapid regime change, state violence, or economic volatility.

The second wave of cooperatives has arisen during the neoliberal era, with some minimal support from either foreign or multilateral aid, but with neither government assistance nor the bureaucratic interference that often accompanies such assistance. Ironically, foreign and multilateral economic advisers (e.g., IMF) have played a key role in the dismantling of the very state support structure for which the work of the foreign and multilateral aid agencies (e.g., UNDP) now compensates. At the same time, major sources of support for these newer organizations has come from fair trade and other, related civil society, private sector-supported initiatives originating in both the global North and the developing countries themselves.

In keeping with the overall theme of this chapter, the case studies reveal a diversity of outcomes, from dramatic success stories to miserable failures. States and foreign donors have played both positive and negative roles. Local cultural institutions, party politics, the dynamics of ethnicity, class, caste, and gender, and the relationship between different levels of cooperative organization all play a role in influencing the relative success or failure of a cooperative organization. In broad summary, the determinants of cooperative success are complex, and cooperatives must be designed in ways that are compatible with the local social, political, ecological, and economic context. The following case studies provide some key details to flesh out this very general picture.

4.5.1. Cooperatives and the State in Post-Colonial Development

The diverse experiences with cooperatives in the post-colonial era differed widely across regions and regimes. This section begins with an overview of cooperative development in sub-Saharan Africa, South Asia, and Latin America, focusing on the role of the state in cooperative development. This diverse set of case studies provides contrast and offers possible clues to the logistical aspects of cooperative success. The cost of comparison across diverse nations and regions, however, is that the specific nation- and region-specific issues cannot be explored very deeply. For instance, Latin America had been “post-colonial” for over a hundred years already, and thus faced a very different set of political and economic issues and constraints.

The existing case studies of successful cooperative development suggest that the process requires a fine balance between state support and state control. (Lele and Christiansen 1989) The state, or any other outside agency with authority, must intervene just enough to establish the requisite technical skills and governance structures within the cooperative population, and yet resist the temptation to control the organization. Historically, national governments have found this balance difficult to strike. The brief case studies that follow demonstrate that difficulty.

The case of Tanzania offers an object lesson in the pitfalls of cooperation under authoritarian regimes, where the degree of state control over the cooperative development process is too great for the cooperatives to attain success. (Kashuliza and Ngailo 1997) Before independence, the cooperatives had evolved independently of the government as a response to the market power of private traders. (Saul 1971) After independence, the government decided to pursue a comprehensive national strategy based on the development of cooperatives. It expanded the number of cooperatives operating in the

country from 850 to over 2000, and expanded the range of crops they collected and services they offered. However, this expansion was brought to an abrupt end in 1976, when the government's change in development strategy entailed the abolition of all cooperatives, replacing the cooperatives' regional structure with a program of compulsory villagization.²² The government replaced cooperatives with parastatal marketing organizations, which proved less efficient than cooperatives. Cooperatives were reinstated in 1982, but under tighter political control than the previous cooperatives. Delays in distributing funds, lack of financially literate workers, late collection of crops, poor storage facilities, and indebtedness all plagued the Tanzanian cooperatives of the 1980s. In 1986, the government liberalized crop marketing, reducing the power of marketing boards and increasing cooperatives' autonomy. The result has been a gradual improvement in the efficiency of the cooperative sector.

The case histories of Kenyan marketing cooperatives have exhibited diverse outcomes and performance trends across different crops. In particular, the contrast between the fortunes of cooperatives in the coffee and the tea sectors could not be more dramatic. Within the coffee sector, as well, performance has varied dramatically according to the form and degree of government intervention. The post-independence (1964) Kenyan government intervened selectively in the cooperatives, allowing many weaker cooperatives to fail and building on the strengths of the more successful organizations. This led to a relatively successful cooperative sector in coffee through the 1960s and 1970s, during which productivity increased. However, the coffee sector began to stagnate after 1980, with a 65% drop in land productivity between that year and 2005.

²² For an authoritative summary of the compulsory villagization program, see Scott (1999).

Following Mude (2006), Pollin et al. (2007) argue that relative lack of state support for smallholders during times of falling prices led to a drop in smallholders' productivity, which drove the overall decline. In addition, the national organization representing Kenya's coffee growers, the KPCU, contained representatives from both smallholders and large estate owners. The result was a relative lack of support for the smallholders due to the influence of the large estates. As well, the coffee cooperatives suffered from poor planning and organization, with a larger than optimal number of factories (994), many of which operated at inefficient scale.

Finally, in 1997, as part of a national economic liberalization drive, the state withdrew from its oversight functions in the coffee cooperatives, leading to deterioration in the quality of governance and a rise in corruption. As discussed in Section 4.5, the incentive structure facing the cooperative leadership made vote-buying a rational strategy for any aspiring elected director (Mude 2006). Cooperative monopsony control over regional catchment areas provided a key piece of the puzzle. The inability of growers to switch cooperatives in response to poor governance allowed corruption to proceed without check; the lack of competition from other types of commercial entities allowed the coffee cooperatives to operate free of competitive discipline. The overall result has been a decline of the celebrated Kenyan coffee sector, including most importantly a dramatic decline in the incomes of smallholders.

The Kenyan tea sector, under the leadership of the Kenya Tea Development Authority (KTDA), provides an excellent counterexample to the travails of the Kenyan coffee sector. The KTDA has maintained effective production, processing, marketing, credit, accounting, insurance and governance functions from the time of independence

until the present day. Unlike the KPCU, the KTDA was set up as a parastatal organization, whose mission was restricted to the support and representation of smallholding tea growers, without the inclusion of tea estate owners. The KTDA provided these smallholders with seedlings, fertilizer, credit, extension services, and assistance in processing and marketing. The tea processing industry was organized on a geographically and economically rational basis, with 52 factories each serving an average of 7,600 growers. The farmer-owned factories run on renewable contracts with the KTDA. The KTDA purchases inputs in bulk at low unit cost and distributes them to the farmers. The KTDA also provides information about production and marketing to the farmers. The result has been a stunning 94% drop in unit costs of tea production between 1964 and 1988. Land productivity in the tea sector has risen at an average rate of 3.5% per year from 1976 to 2005. (Pollin, Githinji, and Heintz 2007)

Case studies from India demonstrate that state control over cooperatives is not the only danger to cooperative performance; the reverse problem, cooperative control over the state, can be just as damaging. Lalavani (2008) examines the Maharashtra sugar cooperatives studied above by Banerjee et al (2001). She shows that vested interests within the cooperatives have been able to capture state regulatory policy successfully and bend it to their advantage. Powerful sugar growers have used their positions as elected officials within the cooperatives to generate support for their campaigns in public elections, almost always through the Congress Party. The newly elected officials then reward their constituents by channeling state revenues towards economically unsound subsidies of their districts' cooperatives. Lalavani demonstrates that discrepancies in cooperatives' access to state-funded irrigation follow discrepancies in political power

across districts. In addition, the price of raw sugar cane offered by cooperatives to their members is a positive and significant predictor of the seat share of the Congress Party in both district-level and state-level elections. Finally, state-directed credits tend to flow towards the cooperatives located in districts in which the elected officials reside. Lalavani concludes that the power of cooperative “sugar barons” in district and state-level politics has led to the predominance of rent-seeking and “pork barrel” politics. She recommends as a remedy the deregulation (though not dismantling) of the cooperatives.

The work of Molinas (1997) supports this section’s thesis of the importance of state support without state control. He examines the process of rural development in Paraguay during the democratization period of the 1980s and 1990s, in the aftermath of the Stroessner dictatorship. Democratization in Paraguay occurred simultaneously with the growth of neoliberal economic policy, which favored atomistic competition among farmers over cooperative development. However, the intervention of NGOs in the Paraguayan rural sector facilitated the growth of a large voluntary associative sector in the rural regions, consisting of more narrowly economically focused cooperatives and peasant organizations with broader socio-political mandates. In the Paraguayan case, joint projects between NGOs and cooperatives or peasant organizations have been a factor in these organizations’ increased success. However, in his statistical analysis, Molinas finds the relationship between the degree of external (NGO or government) assistance and the success of local peasant organizations to be an inverted-U form. At low levels of external assistance, increased assistance complements existing grassroots organization. At high levels, it impedes such organization.

Taken together, the above case studies suggest that the state may play either a positive or a negative role in the development of a small farmer cooperative sector. The Tanzanian experience demonstrates that state control hampers or distorts cooperative development; however, the experience of Kenyan coffee shows that total deregulation can destroy structures of accountability that had been developed under a state-led framework. The experience of Kenyan tea provides an object lesson in cooperative success, in which state action supports, but does not control, the independent production activities of smallholders, while providing the smallholders with a cost-effective structure for the processing and marketing of output. The Maharashtra case demonstrates the dangers of state capture by a powerful cooperative sector. The Paraguayan case illustrates the potential for either outside agencies or government to support the development of rural cooperatives, but also the limitations of this support.

4.5.2. Cooperatives and Fair Trade in the Neoliberal Era

The above discussion, which centers on the role of the state in the cooperative sector, has been rendered largely moot by the retreat of the state from social service provision, including agricultural extension services, in developing countries. This trend has accompanied a similar trend in industrialized countries, in which the welfare state and social safety net, developed during the post-World War II era, have come under increasing attack. The retreat of the state from social services is a key feature of the neoliberal era. Neoliberal policies have been formulated and justified with reference to a range of neoclassical and neoclassical-derived models of the economy, including Walrasian general equilibrium, public choice theory, and rational expectations macroeconomics. The sovereign debt crisis of the 1970s in developing countries provided

the opening for the neoliberal policy packages to take hold, through the medium of multilateral lending, with policy conditionality, by international financial institutions such as the IMF and the World Bank. In this environment, cooperatives have had to adopt alternative strategies for survival and advancement, seeking funding, market access and technical support from a broad array of sources including NGOs, multilateral and foreign aid agencies, and alternative market channels such as fair trade and organic, which include FLO and other certifications.

This subsection reviews the evidence on the impact of participation in these alternative market channels on the survival and advancement of agrarian marketing cooperatives. Its findings thus build on and complement the arguments made in Section 2.7 of this dissertation. Most of the evidence presented in this subsection comes from Latin America, which introduces an element of asymmetry or incommensurability between the findings of this subsection and those of the previous one, which focused on Africa and South Asia. The developments discussed below have occurred very recently, and as a result, relatively few scholars or researchers have studied them systematically across political, social and cultural contexts.

Most of the rigorous studies of the impact of fair trade participation on the functioning of cooperatives have been undertaken in Mexico. The conclusions from most of these studies have been that participation in fair trade markets has significantly improved the functioning of cooperatives, though not sufficiently to alleviate the poverty of these communities definitively. Fair trade participation has ameliorated living conditions among cooperative members and mitigated the effects of the coffee crisis (see Chapters 2 and 3). It has also improved the efficiency of cooperative operations, fostered

the expertise of cooperative managers and technicians, and provided a platform for the development of skills and experience in democratic participation among impoverished small farmers. With all these conclusions in mind, fair trade participation cannot be considered a sufficient condition for the removal of poverty from rural coffee-growing regions. It can be considered a piece of a larger strategy, the remaining pieces of which have yet to materialize.

In the early 2000s, a number of researchers in sociology and anthropology at Colorado State University undertook a series of case studies on the impact of fair trade participation on coffee cooperatives in the southern Mexican states of Oaxaca and Chiapas. These case studies were developed through interviews, participant observation, and descriptive statistics. As well as generating a separate paper for each study, the results were summarized in discussed in review articles by Reynolds (2002) and Nigh (2002). The studies all concluded that participation in fair trade networks had significantly improved the functioning of Mexican coffee cooperatives. Higher and more stable prices allowed the cooperatives to function with greater economic security, enhancing the organizations' prestige in the communities and leading a larger number of growers to join them. The cooperatives under examination had used extra income from fair trade prices and FLO premiums to support farmers' efforts at income diversification, including the raising of chickens and sheep, agro-forestry, handcrafts, baked goods, and horticulture. This last point challenges the market fundamentalist thesis against fair trade (Chapter 2), in that it highlights farmers' aspirations to move beyond coffee and into other lines of production that offer either more remunerative or more stable earnings, including the economic security that household-based subsistence production brings.

In addition, the increased income from fair trade sales allowed the cooperatives to fortify second-tier organizations, or unions of cooperatives. These unions, which correspond to the higher-level organizations (HLOs) of Paraguayan cooperatives described by Molinas (1997), increase lower-level organizations' bargaining power, provide them with superior information, improve their access to new buyers, and facilitate access to credit. The case studies reported an overall high level of communication and mutual support between lower-level and higher-level cooperatives.

In summary, the evidence from the Colorado State studies displays a significant positive impact of participation in fair trade networks on cooperative performance. The FAO corroborates this point in their analysis of fair trade impact studies, arguing that the long-term benefits conferred to the farmers by the success of the cooperatives far outweighs the immediate livelihood improvements created by the higher farmgate price. The cooperatives' long-term fixed investments in production capacity, technical assistance, quality control, ecological production practices, and democratic farmer organization seem to place the cooperative members – if not their communities as a whole - on the road towards improved political representation, better access to credit, and more sustainably managed ecosystems, in addition to higher incomes and superior health and education.

The case studies mentioned thus far have relied entirely on a combination of interviews, participant observation, descriptive statistics, and document analysis. The only existing econometric study on this question to date, that of Ronchi (2006) on the Costa Rican coffee industry, confirms the findings of the case studies, bolstering the hypothesis that participation in fair trade improves the overall performance of

cooperatives – however such performance is measured. I now discuss the result of this study briefly.

The Costa Rican coffee market is comprised of three types of firms: cooperatives, domestically owned private mills, and mills owned by multinational firms. Farmers must bring their raw coffee cherries to one of these three types of mills. Mills export coffee to the international market, receiving the world price plus a country premium that reflects the high quality of Costa Rican coffee. The national coffee agency, ICafé, regulates the marketing margins that the mills are allowed to earn per unit of coffee exported. ICafé calculates the minimum average processing cost of each mill and only allows the mills to earn margins of this amount. However, lax enforcement of the regulations entails that the marketing margins vary widely and often fall outside the boundaries of the regulations. Historical data on marketing margins from the three types of mills allows the researcher to examine their determinants empirically.

Ronchi performs two econometric tests to study the interrelated effects of cooperative presence and Fair Trade on the Costa Rican coffee input market. First, she aims to detect market power in the non-cooperative mills by examining the marketing margins of cooperative and non-cooperative firms. Second, she aims to detect a “Fair Trade effect” separate from the firm’s identity as a cooperative by comparing the marketing margins of FLO-participating and non-participating cooperatives. According to the hypothesis, FLO participation would entail a higher portion of the total price returned to the farmers, and thus a lower marketing margin. If a Fair Trade effect exists in the form of a smaller marketing margin for FLO-participating cooperatives than their

non-participating counterparts, one can conclude that participation in fair trade improves the efficiency of cooperative operations.

Using a multivariate regression model with controls for bean quality, mill-level fixed effects and dummy variables for geographical region and year, Ronchi finds that cooperatives on average record margins over \$0.13 (USD) per kilogram lower than the average of all privately owned mills; this coefficient is significant at the 1% level. It demonstrates clearly that cooperatives offer better prices than privately owned mills, and suggests that privately owned mills exercise market power in their regions.²³ In addition, mills that participate in Fair Trade (FLO) take average deductions of approximately \$0.06/kg (USD) less than those that do not; this coefficient is significant at the 10% level. This second result indicates that participation in FLO certification improves the efficacy of all coffee mills that participate in it. Ronchi argues for two principal channels through which FLO participation increases efficiency: improved liquidity through the payment of premiums, and increased provision of technical assistance.

The evidence presented so far has provided robust support for the hypothesis that participation in fair trade arrangements improves the performance of cooperatives, whether measured in terms of price premiums paid to members, or more qualitative measures of improved technical skill and social support. More detailed case studies, however, reveal a more complex picture of the way in which fair trade participation interacts with cooperative formation and development. I now review this material briefly.

Jaffee (2007) and Fridell (2007) provide detailed case study material on the process of cooperative formation in the Mexican state of Oaxaca. Cooperative formation

²³ The result may also suggest that the private mills are less efficient than the cooperatives on average. The author discusses at length the econometric difficulties in disentangling the measurement of inefficiency from that of market power.

in Oaxaca exemplifies a civil-society-based response to the retreat of the state from social service provision, and highlights the profound social tensions within Mexican society. In Oaxaca, cooperatives were formed out of the vacuum left by the demise of the national coffee agency, Inmecafé. This demise occurred in 1989, concurrently with the beginning of the first coffee crisis (see Chapter 3). Inmecafé had been the primary provider of technical assistance services, as well as low-cost credit and stable prices, to coffee growers. The newly formed cooperatives, such as Michiza, attached themselves to previously established cooperatives such as UCIRI. UCIRI had formed in 1981 in order to achieve greater self-sufficiency from Inmecafé and provide its predominantly indigenous members with previously unavailable support for subsistence production, commercial investment and cultural affirmation and regeneration. As UCIRI became increasingly assertive in its quest for indigenous rights, it became the target of violence from local and national landowning elites and allied reactionary forces. UCIRI, led by its founding advisor, Jesuit priest Franz Vanderhoff, later went on to play a key role in the development of the Max Havelaar certification system, which expanded rapidly and eventually became FLO.

The expansion of cooperatives in Oaxaca has provided an important source of livelihood stability to many small coffee growers, and mitigated the worst effects of the coffee crises of the 1990s and 2000s. Nevertheless, it has not provided a comprehensive solution to the deep economic and social problems facing the region. Jaffee (2007) compares the livelihoods and living conditions of cooperative members and non-organized small coffee growers in the Rincon de Ixtlán, the region of operation for Michiza. He demonstrates that whereas Michiza members' gross incomes are

significantly higher than non-members from the same villages, their expenses are also higher; both members and non-members reported negative net incomes in the years under examination (2002-2003). A large part of Michiza members' higher expenses stem from the increased labor requirement involved in producing high-quality coffee for FLO- and organic-certified markets. Nevertheless, additional evidence points to greater economic security for Michiza members than for non-members. Michiza members exhibit significantly superior housing conditions and higher average education levels than their non-organized counterparts.²⁴ From survey questionnaires, Michiza members report recent improvements in household income at a higher rate than non-members; a significant percentage of them (76%) report using income from fair trade sales to expand or improve coffee parcels. Michiza members report higher levels of perceived food security than non-members, including more frequent consumption of animal protein. Though both groups are in significant debt in comparison to their income levels, Michiza members have lower absolute levels of debt and pay lower average interest rates than their non-organized counterparts. While the cooperative's member families have a higher total rate of out-migration than non-member families, heads of Michiza member households are less likely to migrate, and Michiza member families with migrants are more likely than their non-organized counterparts to spend remittances on home improvements, education and health, rather than basic needs, as a greater proportion of the non-organized migrant families do.

From this brief recap of the literature on fair trade and cooperatives, a hopeful picture emerges. Fair trade and cooperative organizations together represent a skillful

²⁴ The small sample (n=50) and short time series (t=2) make controlling for reverse causality impossible, however.

fusion of civil society organization, private commerce, and international support, which has emerged to partially replace of the retreat of the state from technical assistance provision and market stabilization in some areas of the global coffee economy. Fair trade participation provides significant benefits to cooperative organizations, in terms of both direct income supplements and access to knowledge and expertise. The market channels opened by fair trade networks provide the cooperatives with unprecedented access to information, training, and support, based both in the organizations' home countries and in the industrialized global North. Fair trade participation has been shown to exert an independent and significant impact on the economic efficiency of cooperative organizations. Moreover, cooperative members have tended to enjoy higher economic security than non-members from the same villages, bolstering the case for a knock-on effect from cooperative development to member welfare. Nonetheless, this package of benefits has not by itself brought a state of affairs one could describe as rapid convergence to an industrialized country standard of living; it has not, by itself, brought "development."

4.6. The Impact of Fair Trade on Cooperative Producer Surplus

This section outlines a simple model to identify the key channels through which participation in either a certification or a direct-trading system may affect the producer surplus offered by cooperatives to their members. I will refer to such a system as simply "fair trade." I use lower case letters to distinguish the general concept of above-market trade from the specific cluster of practices and institutions that make up the FLO certification system, defined and discussed in the previous chapter.

The most obvious contribution of fair trade to farmer welfare is to raise the output price P_y . Assuming that no input prices or quantities are affected, clearly the impact is positive, as $\partial S / \partial P_y = Y > 0$. However, we have good reason to believe that in the case of coffee at least, this is not the end of the story. Fair trade does not only raise the output price, but it also raises and lowers the quantities of various inputs supplied. For example, farmers must comply with environmental standards that lower agrochemical use. They must increase the application of labor to the plot in order to produce coffee of high quality at high per-hectare yield, with high levels of on-farm biodiversity and low application of agrochemicals. In order to perform these tasks efficiently, they must contract larger amounts of technical assistance. The combined effect of lowered external inputs and increased technical assistance may raise yields, lower them, or leave them unchanged, depending on the unique characteristics of the plot, the skill level of the farmer, and the quality of the technical assistance provider. Finally, in order to administer these tasks effectively, farmers must engage in periodic meetings devoted to organization and governance; these meetings require the withdrawal of labor from the coffee plot, which may reduce output holding the other factors constant.

Hence, the net impact of fair trade on the level of surplus accruing to an organization of identical farmers shall be represented in equation (4.9) below, in which the T variable refers to the cooperative's degree of participation in fair trade, and all other variables are defined identically to equation (4.3).

$$(4.9) \quad dS/dT = (dP_y/dT) \cdot Y + (dY/dT) \cdot P_y - \sum_{n=1}^n [(dP_i/dT) \cdot X_i + (dX/dT) \cdot P_i]$$

In equation (4.9), I have modeled T as a continuous variable, but in the case of FLO certification, participation has both discrete and continuous components. The discrete

component represents whether or not the cooperative has attained admission to the FLO registry. As discussed in Chapter 2, admission to the FLO registry requires an expensive and rigorous application process, whose costs must be borne by the producers themselves. The continuous component of the T variable represents the proportion of the cooperative's total sales that are realized on fair trade terms, whether certified or not. In the case of FLO certification, the cooperative only receives the FLO minimum price and premiums for those transactions for which it has found a buyer willing to trade on the certified terms. The cooperative must thus actively recruit buyers willing to sign certified contracts. If it cannot find such buyers, it must sell its coffee on the conventional market. Hence, the continuous component of T is a measure of the percentage of the total crop that the cooperative sells on fair trade markets. The above analysis includes an examination of the continuous component of T alone, assuming that the cooperative in question is registered with FLO, and thus entitled to undertake fair trade transactions of any variety.

What sign will the derivative in equation (4.9) likely take? The answer depends on the magnitudes of each partial derivative. The first term will almost always be positive: greater participation in fair trade T positively influences output price P_y . But the sign of the second term hinges on the derivative dY/dT , which is ambiguous. This derivative essentially measures the impact of fair trade participation on cooperative output, which is identical to the sum of all farm outputs. For a given number of plots of identical size, this derivative measures the impact of fair trade participation on per-hectare yield.

To date, there are no formal empirical studies measuring the indirect impact of participation in fair trade arrangements on per-hectare yields. However, such studies do exist for the impact of participation in organic certification programs. Let us assume for the moment that the standards for registering a group of farms with FLO are identical to those of organic certification.²⁵ Martinez-Torres (2005) shows that if the farmers in question had originally used “traditional” or “passive organic” (also known as “rustic”) farming techniques, their yields upon fulfilling the organic certification requirements would increase. However, if these same farmers had originally used agrochemicals, their yields upon fulfilling organic requirements would fall. Hence, we have good reason to believe that the sign of dY/dT is ambiguous, dependent on the cultivation practices used on the members’ farms before the cooperative joined the FLO system. In the case of non-certified direct trade, anecdotal evidence suggests that most direct traders prefer dealing with farmers who adhere to some form of environmentally friendly production methods. Hence the above conclusions are probably valid for this form of trade, as well.

Now let us turn to the impact of FLO certification on the cooperative’s variable input costs, represented by the third term in equation (4.9). Let us broadly divide the cooperative’s inputs into three types: agricultural extension service labor, farm labor, and purchased farm inputs. Participation in fair trade entails unambiguously higher levels of extension service labor and farm labor, but its effect on the third type of input is ambiguous. Farmers must cut back on their use of agrochemicals on the plot, but they must increase their use of other kinds of inputs. These inputs include organic pest control apparatuses, on-farm processing equipment, and post-harvest quality control equipment.

²⁵ In reality, organic certification is more stringent than FLO certification; hence, equating the two would overstate the negative impact of FLO certification on yield.

Hence, the derivative dX_i/dT will be positive for certain purchased farm inputs X_i , but may be either positive or negative for other inputs. Fair trade participation raises the quantities used of certain inputs, and lowers the quantities of others.

Gauging the impact of fair trade on the total cost of inputs is also complicated by possible impacts of fair trade participation on the prices of those inputs. Foreign aid, government support, or private foundations may subsidize certain inputs, including the labor of hired technicians and the equipment used in post-harvest processing. Arguably, participation in fair trade increases the likelihood that the inputs will be subsidized, since registration with FLO bolsters a cooperative's reputation and increases donors' perceptions that the subsidies will be used responsibly. Hence the sign of the derivative dP_i/dT will likely be negative for one or more of the input prices P_i .

In addition to the above considerations, there may be economies of scale in one or more of the inputs, such as post-harvest processing facilities. Post-harvest processing occurs in two stages. The first stage involves the depulping of the coffee bean (or seed) from the outer fruit (called the "cherry"), and occurs on the individual farm using small-scale, usually hand-powered equipment. The second stage, which occurs at the cooperative's processing facility, removes the remaining husk (or "parchment") from the raw coffee bean, by means of a large-scale threshing machine. The threshing machine requires a large upfront fixed cost or capital outlay, and a relatively small variable cost. Over a certain range of output values, the total per-unit cost of post-harvest processing declines with increases in harvest output.

The same principles apply to other cooperative-level facilities, such as quality control and technical assistance. For example, in order to attain quality standards sought

by most fair trade buyers, cooperatives must make use of a quality control laboratory. In a quality control laboratory, equipment must be purchased upfront for output to be tested for quality characteristics or defects. Technical assistance services may also be subject to economies of scale. For hired technicians paid by the day, the per-unit costs of assistance decline as the per-day quantity of assistance services provided increases. Hence, for the inputs discussed above, $P_i = P_i(X_i)$, with the first derivative being negative.

The impact of fair trade participation on the total cost outlay on a particular input that may exhibit economies of scale is represented by equation (4.9) below. Let cost outlay on input i be represented $C_i = P_i(X_i) \cdot X_i$, and let all other variables be identical to those defined in equations (4.9). Then:

$$(4.10) \quad dC_i/dT = (dP_i/dX_i \cdot dX_i/dT + dP_i/dT) \cdot X_i + dX_i/dT \cdot P_i$$

Here, the direct and indirect impact of fair trade participation on input price is taken into account. If participation in fair trade leads to increased subsidies on the input, $dP_i/dT < 0$. If participation in Fair Trade increases the use of inputs for which economies of scale are present, then $dP_i/dX_i \cdot dX_i/dT < 0$, since the first term in the expression is negative and the second term positive. Hence, $(dP_i/dX_i \cdot dX_i/dT + dP_i/dT) \cdot X_i < 0$, and Fair Trade can be said to lower input costs to that extent. However, the second term of equation (5), $dX_i/dT \cdot P_i$, is unambiguously positive for the same type of input. Hence, the impact of fair trade on the cooperative's total cost outlay on inputs is indeterminate. The determining factors are the existence and strength of economies of scale in the provision of the input (dP_i/dX_i), the impact of fair trade participation on the quantity of input usage (dX_i/dT), and the impact of fair trade participation on input prices

(dP_i/dT) , which occurs through the cooperative's ability to attract subsidies to those inputs.

There may, of course, be other factors determining the level of input subsidies besides fair trade participation. In the Peruvian Amazon, the US government has supported coffee cooperatives as part of a strategy to discourage the production of coca for the production of cocaine. This support would likely exist even if FLO did not. However, these other factors are largely historically and geographically specific, and do not affect the overall result presented here.

4.7. Concluding Remarks

This chapter has reviewed selectively the existing theoretical and empirical literature on agrarian marketing cooperatives, and tied that literature to the ongoing discussion of the fair trade movement and its impacts. From the evidence presented, it is clear that agrarian marketing cooperatives are subject to many pitfalls. Lack of access to finance, excessive state involvement, insufficient discipline stemming from lack of competition, corruption among the elected leadership, inequalities among the membership, and inability to achieve efficient scale of operation all may impede cooperatives' efficiency and effectiveness as poverty alleviation tools. However, further evidence suggests that with the right combination of market access, sound governance, and state support, cooperatives may function effectively and efficiently as representatives of the interests of farmers. When competition in agricultural purchasing markets is imperfect, when cooperatives are prohibited from monopolizing the produce of their members, and when state involvement is not excessive, cooperatives may perform at least as efficiently as private firms, and improve the functioning of regional markets besides.

Fair trade practices have largely benefited the organization and ongoing development of cooperatives. In summary, cooperatives are capable of playing an important role in rural development, which can and should be bolstered by complementary organizations of both state and civil society, as well as improved infrastructure, market access, and income diversification. There is considerable scope for additional research on both the determinants of successful cooperative organization and the potential role for cooperatives in broad-based rural development strategies.

The relationship between households' participation in agrarian marketing cooperatives and those households' on-farm labor arrangements is one theme that this review has not addressed. In the next chapter, I examine the relationship between cooperative participation and local-level labor practices at the farm level. The empirical findings presented in the next chapter support the hypothesis that coffee growers' engagement in non-market forms of labor enhances and facilitates their participation in cooperatives. These findings suggest that the presence of tight-knit local social networks that are able to mobilize and coordinate labor efforts provides an important yet overlooked determinant of successful cooperative organization within a given community.

CHAPTER 5

FARM LABOR AND AGRARIAN COOPERATIVES: QUALITY AND PATRONAGE

5.1. Chapter Introduction

The previous chapter reviewed the historical experience of agrarian marketing cooperatives, and related that experience to the development of fair trade. The central finding of the chapter was that such cooperatives hold great potential to increase farmer welfare, provided that the state does not intervene too much or too little. However, farmer behavior also affects the functioning of cooperatives. One common problem endemic to FLO-participating coffee cooperatives today is that of outside sales: cooperative members are tempted to sell their product to private intermediaries rather than market through the cooperative. There are two major reasons why farmers may choose to do this. First, the intermediary often pays the farmer more promptly than the cooperative. Second, the intermediary accepts coffee of any quality, while the cooperative adheres to strict quality standards. Outside sales increase the organizational risk for the cooperative, increasing the degree of uncertainty of supply and increasing the difficulty of signing output contracts in advance of the harvest. Despite the serious implications of outside sales for the financial stability of agrarian marketing cooperatives, the problem has not been extensively studied.

This chapter provides evidence from a single coffee cooperative in northern Peru that coffee farm households' choices in the use of on-farm labor have clear implications for those households' levels of outside sales. Households that rely to a greater extent on non-market forms of labor, namely family labor and networks of mutual aid, exhibit

lower levels of outside sales; these households market larger proportions of their coffee through the farmer-owned cooperative. Households that rely to a greater extent on hired wage labor, by contrast, market larger proportions of their coffee to private intermediaries that work for investor-owned export firms. Due to differences in the market structures and prices faced by the cooperative and the private export firm, these results imply that family labor and mutual aid offer superior labor quality to hired wage labor.

In general, Peruvian coffee cooperatives are more quality-sensitive than the private intermediaries with whom they compete. This difference in quality-sensitivity reflects the difference in target markets to which the two groups of firms sell. Cooperatives sell into relatively high-price markets, due to the presence of certifications, such as FLO and the organic certifiers, which offer price premia. These premia are earned in part by greater attention to output quality, as well as consumers' willingness to pay premia to ensure that prices reflect production costs. Achieving high output quality entails greater attention to the process of picking, cleaning and drying raw coffee beans by farmers, as well as the construction of organization-wide systems of quality management. The quantity and quality of labor input to the process of coffee cultivation and processing thus matters a great deal for the grower's ability to market product through the cooperative. Private firms, by contrast, generally export coffee into mass markets with low or no quality standards and low export prices. Thus, the grower selling into these markets provides a lower level of labor input into the production process, and receives a lower output price. To recap a central point from Chapter 3, the *mode of coordination* of the coffee export market affects the incentives facing the farmers and the firms, as well as the distribution of value along the commodity chain.

There are several possible reasons why the use of non-market labor improves cooperative marketing outcomes. The reciprocity motive and superior incentive structure (residual claimancy) of family-based labor is the first of these reasons. But the unique character of the mutual aid practice, *choba-choba*, is equally important. Due to temporal alternation of peak harvests across farms at different altitudes, *choba-choba* allows for large temporary on-farm labor supplies that can be repaid at convenient times, acting as a labor-smoothing device. In addition, *choba-choba* teams may exhibit greater levels of trust and reciprocity in comparison to relatively anonymous wage labor, higher level of cultivation skills and area-specific geographical knowledge, and certainly involve less cash, enabling cash-poor farmers to amass larger total labor forces than they would otherwise be able to access. It is likely that participation in *choba-choba* facilitates access to cooperatives for some combination of these reasons.

This chapter also contributes to the growing literature on the relationship between social structures and economic outcomes. In his recent work, Stephen Marglin (2008) has argued that economic analysis's exclusive focus on markets and firms has ignored the vital role of communities in material life. The focus in modern economics on measurable, impersonal transactions based on monetary exchange has made invisible important non-market aspects of material life, such as mutual aid, gift economies, care work, and community governance institutions. This chapter represents an attempt to address this important lacuna in contemporary economic thought.

5.1.1. Cooperatives, Intermediaries, and Price Incentives

Coffee cooperatives in Peru, as in other coffee-growing countries, face competition from private local intermediary buyers who contract with large exporting

firms. These intermediaries, known as *coyotes* in Central America and simply as *intermediarios* in Peru, purchase raw, partially processed coffee²⁶ in all grower communities, including those in which cooperatives operate. Cooperatives that benefit from price floors or premiums from FLO or organic certified sales are able to compete successfully with intermediaries by setting prices above the prevailing price paid by the intermediaries. However, cooperatives also tend to demand higher levels of product quality than intermediaries, in order to establish good reputations with buyers and reduce their degree of dependence on certification-based premiums.²⁷ This increased quality requirement entails additional labor from the grower.

Cooperatives face strong incentives to increase output quality, since high quality is the major source of coffee growers' competitive advantage. Increased quality leads to reduced dependence on certifications, and thus reduces cooperatives' price uncertainty. Though the FLO system provides a guaranteed floor price, most cooperatives fail to find certified buyers for their entire yearly harvest and must sell a portion of their harvest on the non-certified world market. Uncertainty in the volume of product to be certified thus entails uncertainty in the overall average output price. A small but growing proportion of

²⁶ Coffee beans may be processed via either wet or dry methods. If coffee is processed via the wet method, the grower removes the "bean" (or seed) from the red berry (or "cherry") that encases it, using a small-scale machine called a *depulper*, which can be operated either by hand or with a motor. This process, called *depulping*, leaves a thin husk around the coffee called *parchment*. Cooperatives and private intermediaries alike purchase coffee in this form.

²⁷ Mexican agronomist Eduardo Martinez Torres describes the additional labor required to produce coffee for specialty markets as follows: "choosing the right time for harvesting; harvesting only mature berries; not allowing harvested berries to heat up; sorting berries on intake; making sure the beans don't crack during the depulping process; double sorting after depulping; making sure fermentation lasts the right length of time, i.e., between 24 and 48 hours, depending on the altitude and average temperature; thoroughly washing the berries; grading; properly drying, preferably both in the sun as well as in a drier in order to avoid mildewing. The drying temperature should be moderate. The temperature should never been turned up to speed the process and save time, since an uneven drying process can significantly damage bean quality. When drying is done on patios, layers should not be too thick and beans should constantly be stirred. Never mix together beans of different grade of quality, beans at different stages of dryness, or beans from different altitudes." (quoted in Bray et al., 2007)

the non-certified world market, however, is willing to pay premium prices in exchange for high quality coffee. Non-certified premium prices often exceed the FLO minimum price, and are also less volatile than the world price on the mass market. If cooperatives are able to access premium markets reliably, they thereby reduce their total price volatility and increase their average output price. Furthermore, most certified buyers are also quality-sensitive, and will choose to purchase from the cooperative or producer organization that offers them the highest quality product. It appears that the social motivations for purchasing fair trade coffee are reinforced by the coffee's high quality, creating a situation where, in the words of a recently popular slogan, consumers are able to "do well by doing good." Increased product quality will thus enhance the cooperative's bargaining power with all buyers, including those that actively participate in the FLO certification system.

As a result of the above-mentioned dynamics, the prices that cooperatives offer their members must thus be high enough to induce the grower to apply sufficient quantities of additional farm labor to attain the requisite levels of quality. Low world mass market prices bring about low price offers from intermediaries, making cooperatives' price offers relatively more attractive. Periods of high world coffee prices, by contrast, lead intermediaries to increase their offered prices, reducing cooperatives' price advantages and hence eroding cooperatives' shares of local purchasing markets. To make matters worse, intermediaries also tend to pay farmers more promptly than cooperatives due to large advance cash payments from the exporting firms that employ them, which the cooperatives cannot afford to make. The intermediaries' prompt payments make their offers attractive to farmers with low levels of household wealth or

savings who cannot wait for cooperatives' payments, even if the cooperatives pay a higher price.

Cooperatives in Peru are legally prohibited from monopolizing the produce of their members. Existing empirical research suggests that this prohibition is economically sound, as monopsony cooperatives tend to succumb to high levels of rent seeking (Mude 2006). Coffee growers who are members of cooperatives must thus choose whether to market their produce through the cooperative or sell it to the intermediary. Marketing through the cooperative is known as *patronizing* the cooperative, similar to the way a customer "patronizes" a business. All sales through the cooperative are referred to as *patronage*. This term is to be distinguished from *patronage* in the political sense of favors bestowed upon subordinate groups by elites in exchange for loyalty and/or electoral support.

5.1.2. Farm Labor Practices and Mutual Aid

Coffee growers in the Peruvian High Amazon, where most coffee in Peru is grown, exhibit diverse farm labor practices. Some growers depend almost entirely on family labor, while others hire in a large portion of their labor for wages. Other growers rely to varying extents on informal networks of mutual aid between households within the same community. These networks consist of extended family members, friends and neighbors, and engage in labor rotations of a day to a week in length during times of peak labor demand. The host of each work team must provide the team members with daily meals, and may also offer traditional corn beer, called *chicha*. The practice described above is known as *choba-choba*.

Labor exchanges of this kind are practiced in myriad agricultural regions throughout the world. Mayer (2005) describes a similar system of equal exchanges of labor in the Peruvian high Andes, known as *waje-waje*. Unequal exchanges in Andean labor also exist, based on a complex system of debts and obligations; these are known as *minga*. In the Philippines, Francia (1988) documents a diverse set of non-market labor practices in rice cultivation, known alternatively as *ammoyo*, *alluyon*, or *convenio*. Like the Andean practices, these may be egalitarian or inegalitarian. Some of these groups may be leaderless, as is *choba-choba*; in the Philippine case, this group is known as a *sari-sari*. In the Philippine case, the teams may also elect a leader known as a *kabesilya*. Like *choba-choba*, the Philippine work teams include both extended family members and residential neighbors. Existing studies of mutual aid have so far neglected the question of whether mutual aid offers higher labor quality than wage labor. This paper addresses that question implicitly by recognizing that a grower's ability to patronize a local cooperative is a function of the quality of his or her product.

In the Peruvian high Amazon, peak labor demand in coffee production occurs during two periods of the year. During the two-month period of plot maintenance that precedes the harvest, coffee plots must be managed carefully to protect against pests and diseases, install erosion-preventing barriers, prune overgrown trees, manage shade cover, renovate trees whose production is exhausted, and remove trees that no longer produce. *Choba-choba* is practiced intensively during this period. During the four-month harvest, labor demand reaches another peak and *choba-choba* is practiced intensively once again.

5.1.3. Preview of Chapter

The structure of the remainder of this chapter is as follows. I continue in section 5.2 of this paper by situating this question within recent debates in economic theory. In section 5.3 I provide a series of economic arguments that suggest that participation in mutual aid increases patronage to the cooperative. In section 5.4, I describe the influence of the FLO and organic certification systems on the incentive structures of the cooperative and the individual coffee grower. In sections 5.5 and 5.6, I explain the social context of the Peruvian high Amazon, in which my field research took place, and the process of data collection, which I undertook between March and August of 2007. Sections 5.7-5.10, the core of the paper, consist of an econometric analysis of the determinants of small coffee growers' marketing choices based on my data. I present a number of alternative specifications for measuring the determinants of the coffee growers' decisions to patronize the cooperative to a greater or lesser degree. The results of this analysis support my hypothesis that participation in *choba-choba* increases cooperative patronage. I conclude, in section 5.11, by suggesting further research in this area.

5.2. Cooperation in Economic Theory

Economists in the neoclassical tradition have historically ignored mutual aid, cooperation, and other forms of non-market exchange in the course of their analyses. Beginning economic analysis from the presumption of a narrowly self-interested *homo economicus*, an individual agent maximizing utility over an exogenously given, self-regarding preference ordering, leaves little room for the analysis of existing patterns of altruism, cooperation, or reciprocal behavior within human social groups.

However, an alternative tradition within the economics discipline has generated highly developed theories about the place of altruistic and reciprocating motives in determining economic behavior. Sen (1977) posits *sympathy* and *commitment* as two major sources of human motivation that affect economic behavior. Sympathy refers to a situation of others' well being affecting one's own: pleasure felt at another's pleasure and pain at another's pain. *Commitment* refers to actions taken with regard to moral or ethical principle, or political or religious conviction, rather than self-interest, such as volunteering or campaigning for a cause, or eating vegetarian.

5.2.1. Assurance Games and Cooperation

Game theory practitioners have long been aware of the complex issues surrounding human cooperation. Bowles (2005) identifies a set of games called Assurance Games, characterized by multiple Nash equilibria, in which only one equilibrium is Pareto-optimal. This equilibrium often involves cooperation among the players. In an Assurance Game, cooperation can be sustained once initiated; however, the presence of multiple equilibria entails that difficulties may arise in attaining the cooperative equilibrium.

An example relevant to the world of coffee cooperatives would be the following. Consider a cooperative with two members. Suppose the cooperative signs a certified contract to ship an amount of coffee that exceeds the quantity of coffee immediately available in the warehouse, plus the output of any single grower. Hence, both growers are required to contribute output in order to fulfill the contract. In exchange for fulfilling this contract, the cooperative will receive a premium price, which it will pass on to the growers. To successfully make the shipment, both coffee growers must independently

choose to market their product through the cooperative in sufficient quantities that the contract is fulfilled. Suppose that if the contract is not fulfilled, the coffee must be sold on the private, non-certified market. As discussed above, such decision-making requires a larger upfront commitment of labor than would be the case if the growers sought to sell their product to the intermediary. It also entails that each grower is reasonably confident that his counterpart will be willing to commit the extra labor. There are two possible Nash equilibria of the resulting game: either both growers market through the cooperative, fulfilling the contract and receiving the premium price, or neither grower markets through the cooperative, the contract is defaulted upon, and both receive the lower price. An outcome in which one grower markets through the cooperative and the other does not, is not a Nash equilibrium because the grower that markets through the cooperative would be better off refraining from committing the extra labor and receiving the lower price anyway. If the growers are able to credibly commit to the extra labor in advance through some form of monitoring and sanctioning, they will be able to reach the high-quality, high-price equilibrium. The persistence of outside sales to intermediaries suggests that in the case of this coffee cooperative, existing organizational mechanisms do not work perfectly.

5.2.2. Choba-Choba

Choba-choba is a form of voluntary mutual aid in labor between households.

Mutual aid, or voluntary reciprocal assistance between two or more non-related individuals, is an important aspect of human cooperative behavior. The importance of mutual aid first came to the attention of Western social thought through the naturalist and social activist Peter Kropotkin. Kropotkin (1902) maintained that mutual aid, or

cooperation among members of the same species or population, ensured group survival in the face of hostile conditions. He called attention to the diverse forms of common property, voluntary associations, and non-market exchanges of goods, manual labor, and care work that prevailed in European village communities before the advent of capitalism and the modern nation-state. This thesis contrasted with the social Darwinist theories of Kropotkin's day, which stressed the primacy of competition among individuals within populations as a determining factor in the evolution of lifeforms, as well as human societies. Kropotkin argued that social Darwinist ideology represented nothing more than a theoretical justification for the forcible subordination of traditional, cooperative communities to the laws of modern states and their emphasis on economic relationships based on private property rights and wage labor, i.e., capitalist relations of production.

5.2.3. Social Capital

Over a hundred years after Kropotkin published his original thesis on mutual aid, modern economics has begun to impute an economic value to social networks obscured by a prior exclusive focus on markets, firms, and states. This school of thought defines social relations as a form of capital (called *social capital*) with an economic value distinct from the endowments of physical or human capital possessed by the individual agents of the network. Empirical studies have demonstrated a correlation between tightly knit social networks and superior economic outcomes. Narayan and Pritchett (1999) used a survey instrument to measure the "quantity and quality of associational life" in rural Tanzania and found that the level of this resulting variable significantly predicted the levels of villagers' incomes.

Some economists have critiqued the concept of social capital and proposed alternative ways of measuring the economic impact of voluntary human association. Fine (1999) criticizes the term for its neglect of power relations within social networks, and its failure to address macroeconomic and national political questions. Bowles and Gintis (2002) propose the term “community governance” to replace “social capital,” in order to incorporate the social norms, power relations, and institutional rules that comprise the structure and functions of local-level, voluntary associations. While “social capital” looks at these associations quantitatively, in terms of their number, density, and so on, “community governance” allows for a qualitative examination of their structure that can provide a more nuanced perspective on the causes and consequences of their successful operation. In this vein, Ostrom (1990) describes and analyzes successful experiences in the community governance of natural resources in a wide variety of social and cultural settings, showing that the traditional dichotomy of “state versus market” must be broadened to include communities as key agents of resource management and local-level governance.

Other authors question the notion that social capital and wellbeing are positively and monotonically correlated, arguing instead that social networks may either enable or constrain human flourishing. Barrett (2005) argues that social networks may constrain such prosperity-inducing actions as technology adoption or free occupational choice, due to social norms that influence the formation of agents’ identities in complex and often dysfunctional ways. Fang and Loury (2005) demonstrate in a theoretical model that dysfunctional identities can account for the simultaneity of dense social networks and

stagnant socioeconomic outcomes often observed in disadvantaged communities in both industrialized and developing countries.

Social capital theory thus fails to provide us with a reliable guide to the impact of *choba-choba* on economic outcomes. Put simply, mutual aid may consist of either mutual striving or mutual shirking. The studies of Barrett (2005) and Fang and Loury (2005) imply that the impact of mutual aid on coffee growers' productivity depends on prevailing attitudes towards effort and the social value placed on material production and prosperity. Finally, Putzel (1997) demonstrates the ways in which social capital within a circumscribed network can impede the process of democratic development and even bring about anti-democratic outcomes. Ethnic dominance, organized crime, terrorism, and even fascist politics are all interpreted by Putzel as the "dark side of social capital." As a result, an uncritical celebration of the virtues of tight-knit communities need not be an implication of an argument demonstrating the effectiveness of mutual aid in mobilizing labor. I now turn to a narrower set of arguments that explain why, under certain circumstances, mutual aid or voluntary labor exchanges may give rise to superior economic outcomes than impersonal labor markets.

5.3. Economic Arguments for Mutual Aid

In this section, I offer five interrelated economic arguments that suggest that mutual aid arrangements such as *choba-choba* (or *waje-waje*) may increase small farmers' productivity and output quality. These arguments imply that engagement in mutual aid will enhance small farmers' patronage to regional cooperatives if those cooperatives offer price premiums in return for high quality. The first argument presents a simple model that shows that mutual aid is a rational response to harvests that alternate in their timing. In

highland coffee production, the varying altitudes at which growers hold their plots entails that peak harvests occur during different weeks and months of the year. Mutual aid thus serves as a device for smoothing labor inputs.

I present the remaining four arguments qualitatively. The second argument holds that mutual aid is subject to fewer monitoring problems than hired labor due to the reciprocity motive, and hence improves growers' productivity. The third argument holds that mutual aid allows poorer growers a larger total labor endowment than hired labor, since it requires less (or no) cash upfront, and hence increases either yield per hectare or quality. The fourth argument holds that mutual aid is less economically costly than hired labor if there is either unemployment in the local labor market or surplus labor on the farm. The fifth argument holds that participation in mutual aid transforms growers' preferences to make cooperation more attractive.

5.3.1. Alternating Harvests, Labor Smoothing, and Mutual Aid

This subsection outlines a brief theoretical model that indicates that participation in mutual aid constitutes rational behavior for family-based farmers when three conditions are present. First, periods of peak labor demand must occur at different times on different farms within the same community. Second, there must either be no labor market, or, following Sen (1975), the household members must have a sufficiently strong preference for family farm work that they do not wish to hire themselves out as laborers. Third, there must be a well-developed market for the farm output, which ensures the growers' ability to market all of the output successfully. These three assumptions are realistic in the context of the Peruvian Upper Amazon.

The simplest setup is as follows. A farm household's production cycle consists of two periods. In the first period, the farm household produces output and consumes purchased goods. This period can be considered analogous to the "peak season" of the harvest. The household sells all its output on the market, and all consumption is assumed to be derived from purchased goods. In other words, in this treatment there is no separate subsistence plot, and the good produced is assumed to be non-consumable. This feature of the model derives from the observation of production and consumption on coffee farms, in which farmers consume a negligibly small proportion of the coffee they produce. Many coffee farmers also harvest a subsistence plot, but I have omitted that sector from this version of the model. In the second period, the household consumes out of its income from the first period, and does not produce. This period can be considered analogous to the "slack season" after the harvest.

The key to this model is that while one household is relatively idle in period 2, another household will be productive, as in period 1. In the case of coffee production, this will be the case when the plots of various households within the same community are located at different altitudes. In this case, the coffee berries will ripen at different times, and the households will benefit from amassing large labor endowments to undertake harvesting during the alternating production periods.

Farm households are assumed to maximize utility; abstracting from intra-household conflicts or bargaining, the household is assumed to make its decisions as a unit. The total household utility is thus conceived as the sum of the utilities in each of the two periods, denoted in the model by subscripts. In the first period, the household makes its output decision and earns income y based on it. The household then consumes out of

that income for both periods. The household's utility comes from consumption c and leisure time t . The utility function is thus given:

$$(5.1) U(c, t) = u(c_1, t_1) + u(c_2, t_2)$$

The household maximizes its utility subject to the constraint that the value of total consumption in both periods cannot equal more than income: $c_1 + c_2 \leq y$. We will assume that the constraint binds, meaning that the household does not save. Income is a function of labor input: $y = f(l), y' > 0, y'' < 0$. The price of the output good is normalized to 1. In both periods, leisure time t is also treated as an input to the household's utility function. The household's total time endowment is also normalized to 1, such that $t = 1 - l$ where l stands for total labor time. Hence, $t_1 = \frac{1}{2} - l_1$ and $t_2 = \frac{1}{2} - l_2$. Hence the household's full maximization problem is as follows:

$$(5.2) \max U = u(c_1, t_1) + u(c_2, t_2) \text{ s.t. } c_1 + c_2 \leq f(1 - t_1 - t_2)$$

Substituting the constraint into the objective function, the problem becomes one of simple maximization. The household selects levels of leisure time and consumption, t_1, t_2, c_1 , to maximize the following function, equation (5.3) below:

$$(5.3) \max U = u(c_1, t_1) + u(f(1 - t_1 - t_2) - c_1, t_2)$$

The first order conditions for maximization of (5.3) are:

$$(5.4a) u_{t_1} = u_f f'(1 - t_1 - t_2)$$

$$(5.4b) u_{t_2} = u_f f'(1 - t_1 - t_2)$$

$$(5.4c) u_{c_1} = u_{c_2}$$

As long as the household's utility function is identical across the two periods, and the labor applied to the production function is homogeneous in quality, these conditions will be satisfied when $t_1 = t_2$ and $c_1 = c_2$. Absent a labor market, it is thus optimal for the

household to contract labor in period 1 that will be repaid with labor in period 2. Mutual aid, or *choba-choba*, thus serves as a device for “labor-smoothing” in the presence of a production process that requires lumpy labor inputs across different farms at different time periods.

The next step is to ask how the results change if the household is allowed to hire in labor. We leave aside the question of hiring out labor, assuming that all members of the household stay on the farm. If we add a market for hiring-in labor with an exogenous wage, the above first-order condition does not change with respect to family labor; the only amendment to the model becomes the condition that the marginal product of hired labor must equal the wage. The simplest formulation assumes that the marginal products of all types of labor are equal. One could drop this assumption by respecifying the production function so that each labor input enters with a coefficient that reflects its productivity, normalizing one labor input coefficient (perhaps that of family labor) to 1.

In the simplest formulation where all marginal products are equal, a hired labor input is added to the production function, and a wage payment is subtracted from income. The household chooses (choice variables) to maximize equation (5.5) below:

$$(5.5) \max U = u(c_1, t_1) + u(f(1 - t_1 - t_2, l_h) - wl_h - c_1, t_2)$$

The first-order conditions are given below in equations (5.6):

$$(5.6a) u_{t_1} = u_f f'(1 - t_1 - t_2, l_h)$$

$$(5.6b) u_{t_2} = u_f f'(1 - t_1 - t_2, l_h)$$

$$(5.6c) f'(1 - t_1 - t_2, l_h) = w$$

$$(5.6d) u_{c_1} = u_{c_2}$$

The predictions of the model are thus as follows: the household will engage in mutual aid services to equalize its labor burden between the two periods. It will hire in additional

labor if and only if the marginal product of the first worker hired exceeds the (exogenous) wage. It will continue to hire workers until the marginal product of labor equals the wage. It will also equalize its consumption bundle between the two periods, though that result is not essential to the argument here.

Mutual aid (*choba-choba*) will raise the quantity of labor per hectare applied to the plot during the peak harvest season above that which would be available with family labor alone. In some cases, the total quantity of family labor-plus-mutual-aid may be such that the marginal value product of labor is *less* than the market wage. In such cases, no hiring-in of labor would occur; either hiring-out will occur, or workers will work fewer hours, depending on the labor-leisure tradeoff. If, however, the quantity of labor amassed by the family plus their mutual aid counterparts is insufficient to drive the marginal value product of labor below the wage, then hiring-in is likely to occur so long as the farmer does not have a sufficiently strong preference against hiring workers.

5.3.2. Incentive Effects of Non-Market Labor

Empirical studies show that incentive structures associated with differing forms of farm labor bring about perceptible differences in land productivity. Abhijit Sen (1981) traces empirically the much-noted inverse relationship between farm size and land productivity to the differing incentive structures associated with family and hired labor, confirming this relationship with data from seven regions of India. He shows that family-run farms tend to apply a greater amount of labor per hectare than farms of equal size and technological capability that rely on hired labor. Employers' imperfect monitoring capabilities bring about lower levels of work effort and increased shirking on farms using predominantly hired labor. Hence, larger farms are unwilling to hire the amount of labor

that would be profit maximizing under perfect monitoring conditions. Marginal products of labor on large farms generally exceed wages, meaning that resources would be more efficiently allocated were a larger quantity of labor to be hired. The incentive problems associated with hired labor, however, prevent this efficient allocation from occurring.

Reciprocity motives, feelings of neighborly sympathy, or improved monitoring due to a lower degree of landowner absenteeism, are all plausible reasons why *choba-choba* may be subject to fewer incentive problems than hired labor. As Amartya Sen (1975) notes, labor is different from other inputs because the providers of the input – laborers – have ordered preferences over alternative technological and organizational arrangements. These preferences complicate efficiency comparisons across production processes. In the setting of coffee farms, production processes involving voluntarily organized work teams may be preferred by pairs or groups of households that enjoy close social relations with one another. Hiring in unknown laborers at a wage, or hiring oneself out as a wage laborer to an unknown employer, may be a less preferred outcome by both employer and laborer. *Choba-choba* may thus bring about a more *economically* efficient allocation of resources than hired labor if one takes into account the preferences of laborers.

Returning to more narrow concerns of productive (or technological) efficiency, if *choba-choba* is more productive than hired labor, its use may result in a larger volume of output per land area, a higher quality of output, or both. However, in the case of coffee, there are good reasons to believe that the increased productivity of *choba-choba* would primarily translate into a higher output quality, rather than a higher yield. In coffee growing, the yield is often relatively invariant to the form of labor used in harvesting.

Coffee berries ripen at different rates even on the same branch of the same tree. Indiscriminate picking of ripe and unripe berries, called “scraping,” may occur if the laborer is not careful in the harvest. Aggregated over the entire harvest season, scraping will produce identical or near-identical yields to careful harvesting, but the quality of the output will be much lower. Thus, in the case of coffee, output quality is a more appropriate indicator of labor productivity than yield. To sum up, the higher quality labor input offered by *choba-choba* workers is likely to translate into a higher average output quality, which would translate into a higher output price. This higher output price might be earned through either patronage of the cooperative, a higher average output price offered by the intermediary, or both.

Support for these propositions is provided in Appendix A, Tables A1 and A2. I run two sets of OLS regressions on my sample, one with yield per hectare as the dependent variable and one with weighted average output price as the dependent variable. The results indicate that yield per hectare is invariant to the relative and absolute quantities of various types of labor inputs applied to the plot. Yield, rather, is dependent predominantly upon agro-climatic conditions, cultivation techniques, and age of coffee trees. However, average output price appears to be strongly positively affected by quantities and types of farm labor inputs. Average output price is measured by the weighted average of all prices received by the grower from the cooperative and the intermediary. Growers who use larger quantities of *choba-choba* per hectare tend to receive higher average output prices than growers who use smaller quantities thereof. By the same price measure, growers who rely on *choba-choba* for a larger proportion of their total farm labor input tend to receive higher output prices than growers who rely on

mutual aid to a lesser degree. Growers who use larger quantities of hired labor per hectare, and who rely on hired labor to a greater degree, tend to receive lower average output prices. The same results hold true when one measures the determinants of the end-of-year per-unit dividend that the cooperative awards its growers in accordance with the quality of their coffee. The results are discussed at greater length in Appendix B.

5.3.3. Liquidity, Credit Constraints, and Labor Markets

Theoretical and empirical treatments of developing-country rural credit markets show the presence of rationing in the formal credit market, leaving small farmers to seek informal sources of credit such as moneylenders, merchants, and relatives. (Bardhan and Udry 1999) Reliance on *choba-choba* for labor supply decreases a grower's need for immediate cash, lessening the impact of credit constraints. Alleviating this constraint will likely increase the grower's patronage to the cooperative.

Coffee cooperatives are constrained by a smaller base of working capital and inferior access to pre-harvest loans than larger-scale, more highly capitalized private exporting firms.²⁸ As a result, cooperatives must often wait for payments from clients for previous shipments of coffee before they are able to pay growers for fresh shipments. Hence there exists a delay or a lag between the grower's harvesting of the coffee and the receipt of payment (discussed in greater detail in Section 4 below). By contrast, private intermediaries receive large upfront quantities of cash from the exporting firms for whom they work. They can seek out growers in their homes and offer immediate cash in exchange for the grower's current supply of recently harvested coffee. The delay between the intermediary's payment and the cooperative's payment may induce a cash-poor

²⁸ My data show that 44.7% of my sample received some amount of pre-harvest credit during the year in question.

grower, or a grower who discounts the future heavily, to accept the intermediary's price offers even if the intermediary offers a lower price than the cooperative. The use of *choba-choba* on the plot both alleviates growers' credit constraints *and* decreases growers' immediate cash needs, allowing growers to refuse the intermediaries' lower and timelier price offers and wait for the cooperative's higher prices.

5.3.4. Incomplete Labor Markets

Repayment of a day's labor in kind will be economically cheaper than repayment in cash when either of two conditions are present: surplus labor on the farm, or an imperfectly functioning local labor market. Amartya Sen (1966) shows that the presence of surplus labor in rural markets implies that family laborers will supply labor to the farm in excess of the quantity that equates the marginal product to the market wage. The implicit wage or "shadow wage" on family labor is thus less than the market wage if surplus labor is present. Involuntary unemployment in local labor markets will also lead to an implicit family wage that is less than the market wage, by lowering the opportunity cost of family labor. In the case of incomplete labor markets, the opportunity cost of family labor c can be measured as the market wage w , multiplied by the probability of acquiring a job, ρ . Hence $c = w\rho$. Rational farm households will allocate labor such that its marginal product equals c , not w . If $\rho < 1$, then $c < w$ and a day of family labor obtains a lower implicit wage than a day of hired labor.

The above two conditions both imply that payment for labor services of uniform quality in days of family labor will be less economically costly than payment in cash, if the hired laborer demands the prevailing market wage. Growers with access to *choba-choba* will thus be able to amass a larger amount of total labor per hectare than other

growers of similar economic status. Such growers will be able to produce higher yields per hectare and/or higher quality levels than their hired-labor-dependent counterparts.

5.3.5. Preferences

In addition to the above incentive effects, *choba-choba* may translate into greater patronage through the impact of such practices on growers' preferences. Bowles (1998) argues that individual preferences, the primitives of the neoclassical theory of economic behavior, are in fact endogenous to institutional formations and can be transformed by changes in the social, cultural, political or economic environment. If this is so, then participation in *choba-choba* may foster in coffee growers a preference for cooperative over competitive arrangements. It is possible that this preference will transfer to increased grower participation in a larger cooperative organization. Growers who engage in *choba-choba*, under this argument, will be more active participants in cooperatives than those who do not. The process may work in the other direction as well, whereby membership in a cooperative leads to intensification of existing mutual aid practices by reinforcing growers' preferences for cooperation. This proposition is difficult to test, since ethical attitudes are not easily observed via surveys. Lab experiments, such as those undertaken by Cardenas and Carpenter (2008) would provide an instrument for measuring growers' behavioral predispositions towards patronage even in the absence of immediate material incentives.

5.4. The Role of Fair Trade (FLO) and Organic Markets

This study makes use of a survey instrument to measure the determinants of coffee growers' patronage to a regional cooperative. All of the coffee growers surveyed are members of a single cooperative, CAC Oro Verde, which spans three watersheds of

northern Peru, known as the Lamas, Alfonso Alvarado Roque, and San José de Sisa watersheds.²⁹ Oro Verde benefits from a high level of participation in Fair Trade (FLO) and organic certified coffee marketing networks. Participation in these networks entitles the cooperative, and the growers who are its members, to a higher price than it would receive if it sold its coffee on the open market.

As explained in Chapter 2 of this dissertation, the existence of FLO and organic price premiums stem first and foremost from consumers' willingness to pay an increased price for products upon receiving a credible guarantee that the original producers were fairly compensated, democratically organized, and actively protected the natural environment. We may characterize this willingness as an instance of *social preferences* (Bowles 2005), in which a consumer's preference ordering includes the utility levels of others. Reciprocity, altruism, and *inequality aversion* are all forms that social preferences may take. In some cases, the premiums paid to FLO-certified and organic growers reflect the social preferences of the managers of alternative trade organizations (ATO), who are willing to accept a lower-than-average profit margin to increase the wellbeing of disadvantaged suppliers.

Various writers on FLO and fair trade have characterized the premium price as a charitable contribution. However, it may be more apt to compare FLO's premiums to efficiency wages paid by firms. The quality levels consumers have come to expect of fair trade and organic coffee are higher than those expected of conventional, non-gourmet, mass-produced coffee. The price premium rewards the growers for the increased labor input required to produce coffee for fair trade and organic markets, and provides them

²⁹ The *CAC* acronym stands for *Cooperativa Agraria Cafetalera*, or Agrarian Coffee Cooperative. I will drop the acronym from now on and refer to the cooperative in question as Oro Verde.

with an incentive to organize themselves into cooperatives and produce using environmentally friendly methods.

As explained above, cooperatives run into difficulties during times of high world prices, as shrinking premiums induce members to sell an increasing portion of their coffee to private intermediaries. During such periods, cooperatives must take great pains to induce higher patronage and avoid member attrition, usually through some form of moral suasion. To understand the dynamics of this process fully, we must look closely at the FLO and organic pricing systems. FLO certification, administered by the Fairtrade Labelling Organization International (FLO-e.V), offers a floor price and two sets of fixed above-market premiums, the organic premium and the social premium. If the world market price drops below the floor price, the cooperative receives the FLO floor price plus the social premium on all its coffee. The cooperative receives the organic premium only on the portion of its coffee that is certified organic under an accredited program such as IFOAM, Bio Latina, or OCIA. If the world market price exceeds the floor price, the cooperative receives the *world market price*, plus the premiums. In other words, there are no *additional* FLO premiums that kick in when the world market price is high. As of 2007, the social premium is \$0.10 per pound and the organic premium is \$0.20 per pound. At the time of my research, the premiums were \$0.05 and \$0.10 per pound, respectively.

The two premiums discussed above follow different rules for distribution within the cooperative. The social premium must be spent on development projects within the cooperative; FLO standards prohibit its distribution to individual growers. The organic premium may be either distributed directly to individual growers as income, or retained

by the cooperative to finance the provision of technical assistance (including the process of certifying additional plots as organic.) Organic certification occurs on the level of the individual plot rather than the organization as a whole. Individual growers seeking to certify their plots must pass through a three-year transition period, which involves a labor-intensive transformation of farming practices. Not all members of cooperatives will be willing or able to make this transition. The social premium, by contrast, was designed as a policy to induce cooperatives to invest in organizational-level assets, thereby planning for the long term. Its adoption reflected the perception of the directors of FLO that cooperatives would face strong incentives to maximize short-term income at the expense of long-term investment.

Organic and FLO certifications are transaction-based, meaning that the trading standards (including the price premiums) are guaranteed, and the certification labels issued, transaction by transaction. This feature of the certification systems entails that coffee produced by the cooperative will only be certified to the extent that the buyers are willing and able to purchase it on certified terms. Hence, the cooperative must actively seek buyers willing to purchase shipments of coffee under the terms of either or both certifications. Most coffee trading companies make their certification choices based on perceived consumer demand, underscoring the centrality of ethical consumer choice to the success of the certification models. These companies may choose to purchase coffee from cooperatives on organic, but not FLO certified, terms, and vice versa, even if all coffee from such cooperatives is eligible to be certified under both labelling schemes.

Cooperatives wishing to sell coffee on FLO certified terms must join the FLO registry, which requires extensive documentation, involves long waiting periods, and

entails a large upfront certification cost. Yet, as the above discussion implies, FLO provides no guarantee that a FLO-registered cooperative will be able to find a buyer willing to purchase coffee on FLO certified terms.³⁰ Hence, many cooperatives find that a large portion of their coffee must be sold on the conventional market. This flaw in the FLO certification system entails that cooperatives must engage in additional quality upgrading in the hopes of attracting specialty buyers, who pay above-market premiums *only* if coffee is of specialty grade.³¹ It also entails that the price premium the cooperative is able to offer its members will often be substantially *less* than the FLO and/or organic premiums, blunting the members' incentives to patronize the cooperative.

Though certification under both organic and FLO certified terms is costly, cooperatives often seek to participate in both programs, since participation in each program alone places cooperatives in a less favorable market position. Calo and Wise (2005), using data from southern Mexico, show that the premium offered by organic certification alone does not provide the grower sufficient compensation to bear the costs of the transition to organic production. FLO premiums thus cross-subsidize the organic transition process within cooperatives. Conversely, FLO-registered cooperatives choose to undergo expensive organic certification programs because FLO certified coffee is much easier to sell on international markets if it also carries an organic seal.³²

³⁰ Buyers of fair trade coffee are of two major types: alternative trade organizations (ATO) that purchase all of their coffee on FLO certified terms or better (with or without certification), and large transnational corporations who will comply with FLO certification requirements only insofar as it meets consumer demand.

³¹ Coffee is considered specialty grade if it scores above 80 points on the quality scale administered by the Specialty Coffee Association of America (SCAA). The cooperative employs technicians who are trained to give the coffee a point score.

³² The exception to this general rule is the United Kingdom, where a large portion of the Fair Trade certified coffee does not carry an organic seal.

Understanding the nature of the two certifications provides insight into the cooperatives' difficulties in during times of high world prices. World prices that exceed the FLO floor price diminish the size of the cooperative's price premium, reducing growers' incentives to patronize the cooperative. High world prices also lower the cooperative's implicit subsidy to organic coffee production, reducing cooperatives' incentives to certify new growers as organic. Since most fair trade buyers prefer double-certified (FLO-organic) coffee, certifying fewer *organic* growers in one year will hurt the cooperative's ability to attract *fair trade* buyers in the following years, forcing the cooperative to unload larger proportions of its coffee on the conventional market and reducing its price premiums further. Cooperative organic programs are damaged even further when private intermediaries begin paying premiums for organic coffee, as the firms then begin to appropriate some of the fruits of cooperatives' previous investments in assisting growers in the process of organic conversion.

Incentives for cooperative members to patronize the cooperative are blunted further by the cooperative's payment schedule. The cooperative pays the growers in two installments, called the *delivery price* and the *dividend*.³³ The cooperative pays the delivery price when the grower delivers the coffee to the cooperative headquarters. This price is fixed by the cooperative at the beginning of the season, and is calculated to exceed the price that the cooperative expects the private intermediaries will offer. If the intermediaries begin to offer prices that exceed the cooperative's price, the cooperative may raise the delivery price in mid-season, but this did not happen in the year described

³³ The dividend is sometimes called the *patronage refund* or *rebate* in the cooperative literature (Turtianien and von Pischke 1986).

by my survey (2006). The organic premium may be passed on to the grower either via a higher delivery price, a higher dividend, or both.

Before the cooperative pays the delivery price to the growers, the coffee must be collected from the members. Responsibility for collecting coffee from the members belongs to the cooperative's *base committee*. The cooperative is divided into base committees, each of which comprises all the cooperative members residing in a single community.³⁴ Committees possess warehouses for the storage and weighing of coffee. These warehouses usually double as the sites for meetings. Local warehouses may be the property of a single committee, or they may be shared between multiple committees. When sufficient coffee is collected, the cooperative hires a truck to transport the coffee from the local warehouse to the headquarters. Only then is the first payment, or *delivery payment*, disbursed. The timespan between the grower's harvesting of the coffee and receiving the delivery payment may be one or two weeks.

The second payment, or *dividend (reintegro* in Spanish), is disbursed after the end of the growing season, when all the cooperative's accounts have been settled. In the Lamas region, the growing season ends in mid-August, but the dividend is not paid by the cooperative until the end of January. The size of the dividend varies according to the export price the cooperative receives for its coffee on the international market, which depends upon two factors: the quality of the coffee, and the proportion of the coffee sold to Fair Trade and organic buyers. Hence, there is always some uncertainty about the

³⁴ These committees have their own governance structures, with president, vice-president and secretary. Depending on their size, they send either one or two delegates to the cooperative's General Assembly.

magnitude of the dividend, as well as its timing. Any delay in payment from a client can result in a delayed dividend, which can induce economic hardship for growers.³⁵

In the survey I conducted in 2007 (explained further below), I asked growers to report the farmgate prices and quantities they received from both intermediaries and the Oro Verde cooperative during the 2006 harvest season. In Table 5.1, I compare these prices to the export prices paid to intermediaries and cooperatives, and the Fair Trade minimum price, in 2006. The price paid to the grower by the cooperative is the weighted average over my sample, and includes both delivery price and dividend.

³⁵ For example, in February 2007 growers were in an uproar about the failure of the cooperative to pay the dividend by the agreed-upon time. This abnormal delay resulted from the spoilage of one of the cooperative's shipments of coffee. The coffee had been stored in a warehouse in Lima, and unusually dry weather had caused its humidity level to drop below the acceptable range for specialty coffee importers. The importer had then cancelled the contract with the cooperative, forcing the cooperative to seek another client to purchase the coffee at a reduced price. The dividend did not arrive until the new client was found and had paid for the shipment, and the dividend's magnitude was lower than the growers had expected.

	\$/qq	S/qq
¹ Average export price paid to all private, non-cooperative firms	96.62	315.95
¹ Average export price paid to all cooperatives	124.23	406.23
¹ Average export price paid to Oro Verde cooperative, in \$/qq	133.33	435.99
² Yearly average ICO Indicator Price “Other Milds”	116.80	381.94
³ Fair Trade minimum price, 2006	121	395.67
⁴ Average price paid to growers in sample by private intermediaries	65.23	213.32
⁴ Average price paid to growers in sample by the cooperative	91.29	298.52
⁴ Average intermediary discount (export minus farmgate price)	31.39	102.64
⁴ Average co-op discount (export minus farmgate price)	32.94	107.71

Sources: 1. Junta Nacional del Café, <http://www.juntadelcafe.org.pe/>; 2. International Coffee Organization, <http://www.ico.org>; 3. Fairtrade Labelling Organization, <http://www.fairtrade.net>; 4. Own survey; 5. Banco Central de la Reserva del Perú, <http://www.bcrp.gob.pe>. All conversions reflect an average 2006 monthly Peru-US exchange rate of 3.27 S/USD.

In Table 5.1 above, prices are measures in either U.S. dollars (\$) or Peruvian New Soles (S/) per *quintal* (qq) of partially processed or *parchment* coffee beans. The *quintal* in Peruvian coffee represents one of two measures: either a 56-kg weight of partially processed coffee beans, or a 46-kg weight of fully processed beans. This difference reflects the two separate stages of processing that characterize the wet-processing method for coffee. At the farm gate, the grower that undertakes wet processing delivers the coffee to either the intermediary or the cooperative in partially processed form, with a paper-like husk surrounding each bean. This stage of processing is called the *parchment* stage (or *pergamino* in Spanish). The coffee loses weight as the husk is removed from the bean and threshed, and the beans progress from parchment stage to the *green* stage of processing. The ratio of the weight of the fully processed, green coffee, to the partially processed, parchment coffee, is known as the *yield* of the coffee (or *rendimiento* in Spanish), and it

varies across coffee tree varieties, levels of ripeness, bean quality, and other random factors. A shipment of beans with a low degree of weight loss from processing has, by definition, a high yield. It is estimated that the average yield of coffee is 80% to 85% of its weight. As an approximation, then, the *quintal* of parchment coffee is measured as 56 kg, to produce an average *quintal* of green coffee of 46 kg.

The prices of the table above reflect a combination of world market conditions, Peruvian national market conditions, and the benefits of FLO minimum prices and premiums. From Table 5.1, we can see that both intermediaries and cooperatives take cuts of the export price of almost the same absolute magnitude. In percentage terms, the intermediary's cut is larger, since both the farmgate price paid to the grower and export price paid to the private firms are lower than the corresponding prices paid to the cooperative and its members. There are two other reasons why the cooperative is offering the members a relatively better deal than the intermediaries. First, the cooperative provides services – certification, technical assistance, and quality control – that the private export firm does not. Second, the cooperative is governed democratically, meaning that growers are empowered to make decisions regarding the organization's investment alternatives. The private exporters receive, on average, prices that fall far below the world average for other coffee beans in the same category, the "Other Milds" category from the International Coffee Organization's classification. This fact suggests that the private exporters in Peru tend to specialize in low-quality coffee destined for mass consumer markets, which is consistent with reputation.

5.5. Description of Survey Data

I collected data on 150 coffee-growing household members of the Oro Verde coffee cooperative between March and July of 2007. In my surveys, I aimed to gain a broad picture of the farmer's living standards and livelihood strategies in order to identify the factors that influence members' patronage decisions. I chose the sample at random from the cooperative's roster of 450 members. To create as unbiased a sample as possible, I selected at random half the member communities from each region by counting every other community listed on the cooperative roster. I then selected, at random, half of the cooperative members from each community by counting every other name on the cooperative roster in alphabetical order.³⁶ I then visited each community in my sample, many of which were three to four hours away from the headquarters by truck, often requiring additional walking of an hour or more. Most of these community visits took two to three days. In several cases, the community member I was seeking was unavailable; coffee farmers often make trips of a day or more into major towns and cities for supplies. In these cases, I sought the farmer's nearest neighbor who was also a fellow cooperative member, and interviewed him or her instead.

Table 5.2 lists mean, median and standard deviation for some key indicators that describe the households of the Oro Verde cooperative. I include indicators of household demographics, landholdings, coffee production and income, subsistence production, participation in production, and labor usage. Median household size was 5 members, with on average the number of adults (members over 18 years of age) exceeding the number of children. Median dependency ratio was 1.0, indicating that number of working members

³⁶ My sample ends up being more than one-quarter than the total population, because the membership of the communities I selected added up to more than one-half of the total cooperative population.

equaled number of dependents, on average. The median household cultivates two parcels of land, reflecting the custom of that region to possess a subsistence parcel separate from the coffee parcel. Median amount of land owned or controlled by the growers in my sample was 9.125 hectares. Of that land, the median number of hectares cultivated in any crop by growers in my sample was 5.25. The median grower cultivated three hectares of land in coffee. Most of these coffee growers did not grow another cash crop, although a small number grew cacao. Median yield on coffee plots was 13.94 quintals per hectare.³⁷ The range of yields was vast; maximum reported yield was 60 qq/ha and minimum 2.11 qq/ha. Most growers exhibited some degree of self-sufficiency in household production, cultivating 1.73 hectares in subsistence crops on average. Subsistence plots tended to be planted in a traditional polyculture made up of plantains, yuca (manioc), and beans.

The data in Table 5.2 reveal some clear outliers whose presence may bias the data. These outliers may exist due to inaccurate respondent recall, inaccurate interpretation of the survey question, or simply exceptional cases. For instance, the maximum number of total hectares owned or controlled by a household is 202, which far exceeds the average. Speaking with the owner of this plot, I discovered that the vast majority of the land was not cultivated; rather, the owner had staked out a large area of primary forest that he intended to turn into a combination of coffee, food crops and pasture. I remove these outliers for the purposes of my regression analysis.

³⁷ This yield figure compares very favorably with the coffee growers surveyed by Jaffee (2007) from Oaxaca, in which cooperative member growers' plots yielded an average of only 213.21 kg/ha, or 4.635 qq/ha. It also compares favorably to the yield figures reported by Martinez-Torres (2006) from Chiapas, which averaged 9.85 qq/ha for organic and 10.32 for chemically grown coffee.

Table 5.2. Descriptive Statistics on Cooperative Member Households					
Variable by Category	MEAN	MEDIAN	STDV	MAX	MIN
Household Demographics					
Number of household members	5.06	5.00	2.140	17	1
Number of adults over 18 years of age	2.7067	2.00	1.318	10	1
Number of minors under 18 years of age	2.34	2.00	1.446	7	0
Number of minors working full time in the fields	0.2333	0.00	0.639	2	0
Dependency ratio ³⁸	0.9279	1.00	0.744	3	0
Landholdings					
Number of agricultural parcels owned or controlled by household	1.9133	2.00	0.881	6	1
Total land owned / controlled by household, in hectares (1 ha = 2.2 acres)	14.7067	9.125	20.29	202	1.25
Total land under cultivation, in ha	7.0948	5.25	6.810	58	1.1
Total land in coffee, in ha	3.8440	3.00	3.001	24	0.7
Average altitude of coffee plot, in meters above sea level	1165.733	1173.40	290.0	1800	110
Total land in cacao production, in ha	0.2875	0.00	1.222	14	0
Total land in other cash crops, in ha	0.0508	0.00	0.218	2	0
Total land in timber, in ha	0.0433	0.00	0.227	2	0
Total land in pasture, in ha	1.1208	0.00	3.402	30	0
Total land in subsistence crops, in ha	1.7307	1.00	2.371	17	0
Total land left as forest, in ha	7.2542	3.00	17.63	195	0
Coffee Production					
Quantity of coffee produced in 2006, in qq (1 qq = 46 kg)	63.78	40.00	63.94	400	5
Yield per hectare, in qq	16.68	13.94	10.16	60	2.11
Subsistence Production					
Number of subsistence crop species grown by household	3.23	3.00	1.255	6	0
Number of animal species raised by household	2.05	2.00	1.159	6	0
Participation in Cooperatives					
Household's length of tenure in cooperative, in years	4.48	3	2.41	8	1
Quantity of coffee marketed through the cooperative, in qq	34.26	25.00	33.86	180	0
Quantity of coffee sold to intermediaries, in qq	29.79	15.00	50.04	348	0
Labor Use on Coffee Farms					
Annual days of hired labor per hectare	238.7	189	222.9	1295	0
Annual days of family labor per hectare	331.8	255.6	289.4	1915	25
Annual days of mutual aid labor per hectare	38.55	15	62.35	345	0
Total annual days of labor per hectare	609	486.3	448	3410	29.2

³⁸ Dependency ratio = ratio of nonworking to working household members. Children working part-time in the fields and attending school are counted as dependents.

The Oro Verde cooperative's geographical scope encompasses three regions of the San Martin department of northern Peru.³⁹ The three regions border each other, and span two provinces (cantons) of the department. The Lamas and Roque regions are both located in the Lamas province, and the Sisa region is located in the neighboring El Dorado province. (See Appendix B: Map of Region.) Within each region, the cooperative's membership is spread throughout several communities, each of which contains a single cooperative base committee.

The members of Oro Verde live in communities of three types. A *comunidad* is an indigenous Lamista community, in which individuals hold land in usufruct and the community owns all land collectively. The Lamista are the descendents of the myriad indigenous tribes that were colonized by the Spanish during the 16th century and forcibly relocated into settlements known as *reducciones*. In the 1960s, Lamista communities attained legal autonomy and self-government. Members of indigenous Lamista communities are allowed to trade land use rights between themselves, but not allowed to sell land to those who are not community members. The governance structure of these communities combines Lamista forms of government with national administrative forms. The traditional leader, or *apu*, is elected by the community and takes responsibility for the community's internal governance. The municipal agent (*agente municipal*), who is also elected by the community, acts as a liaison between the community and the regional government. The community also elects a lieutenant governor or *teniente gobernador*, whose job it is to ensure law and order within the community.

³⁹ A *departamento* (department) plays the role analogous to a state in the United States, or a province in Canada. Departments send delegates to the national Congress and are presided over by a governor and assembly. A *provincia* (province) plays a role analogous to a county in the United States, with a local government but no representation in Lima.

A *caserío* is a village in which residents hold private property. Caseríos may be one of two types, called *mestizo* or *colono*. *Caseríos mestizos* are long-standing villages containing predominantly people of mixed-ethnic descent (*mestizos*), with some purely indigenous residents as well. The *mestizo* population is derived from mixture of the indigenous Lamistas and the Spanish colonists who began populating the San Martín region as early as 1538, though they did not achieve dominance in the region until 1654. *Caseríos colonos* contain primarily recent migrants from another province or department, often the nearby department of Cajamarca. Usually the majority of the *colonos*, or migrants, in a single *caserío* come from the same province of origin.

A *centro poblado*, literally a “population center,” is a local town surrounded by smaller villages. *Centros poblados* often lie at the center of small watersheds and serve as the central point for agricultural commerce in that region. For example, the *centro poblado* of Alfonso Alvarado Roque (A.A. Roque) lies at the center of the Roque watershed region. Coffee growers transport their product into A.A. Roque, where it can be stored and shipped to the cooperative headquarters in Lamas, or elsewhere; the town contains a few rudimentary amenities, such as restaurants, general stores, and a small, very rustic hotel. Likewise, the *centro poblado* of Pamashto lies at the center of one of the watersheds of the Lamas province.

The Oro Verde cooperative is divided into committees made up of all of the cooperative members residing in a given community. The committees range in membership size from six to forty-four households. Communities vary widely in the percentage of their members who belong to the committee. In the case of the indigenous community of Alto Shambuyacu, nearly 40% of the community belongs to the

cooperative as of 2006. In the case of the *centros poblados* such as A.A.Roque and Pamashto, the figure is less than 10%.

My data reveal systematic differences in labor use across members of different community types. Figure 1 presents a box-and-whisker plot of the distribution of degrees of reliance on family labor across community type. On the horizontal axis, the data is divided into four community types: *comunidad*, *caserío mestizo*, *caserío colono*, and *centro poblado*. On the vertical axis is measured the estimated percentage of *total* labor used on the farms in question that was performed by members of the farm household. The median percentage for indigenous communities is close to 0.7 or 70%, as indicated by the center line on the blue shaded box; the corresponding medians for the other three community types are just over 0.4 or 40%. Figures 2 and 3 perform the same exercise for hired labor and mutual aid, respectively, and reveal a markedly larger degree of reliance on mutual aid, and smaller degree of reliance on hired labor, among the indigenous community members in my sample. This finding is consistent with the anecdotal evidence and common-sense observation of the process of coffee cultivation and harvesting in the Lamas region. At the same time, it is worth noting that even among the indigenous community members in my sample, the median degree of reliance on mutual aid was only approximately 0.1 or 10%. Given the positive benefits of mutual aid strongly suggested in my data, its rarity poses a fascinating puzzle.

Figure 5.1. Degree of Reliance on Family Labor by Community Type

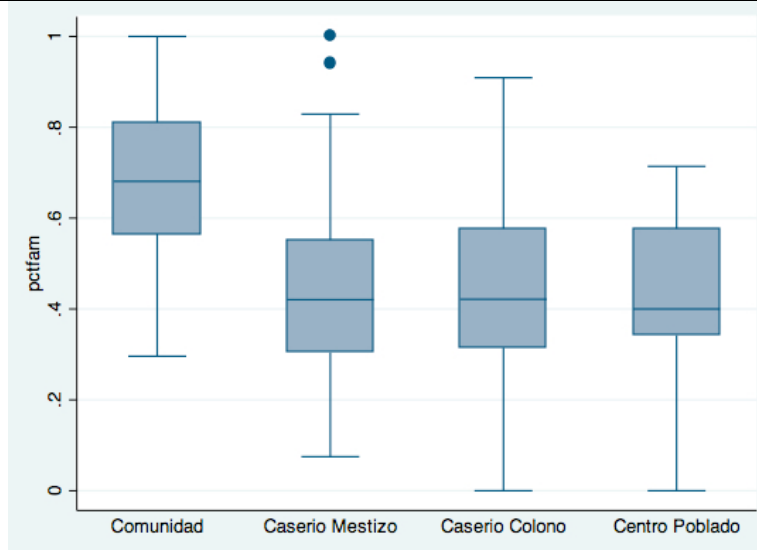


Figure 5.2. Degree of Reliance on Hired Labor by Community Type

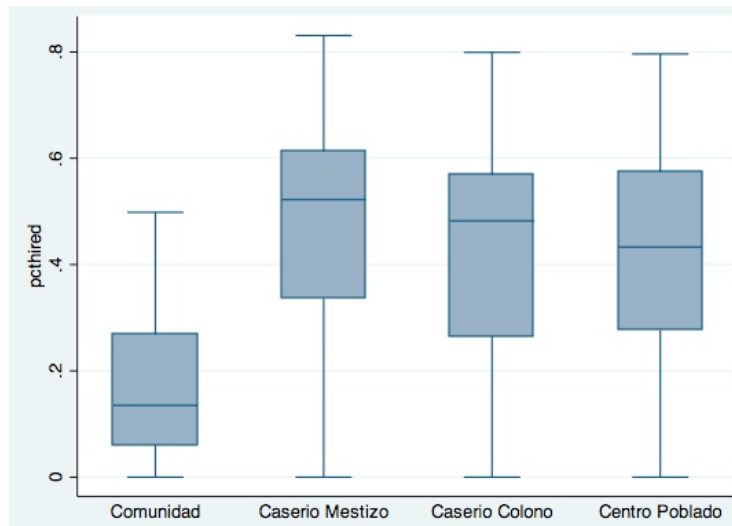
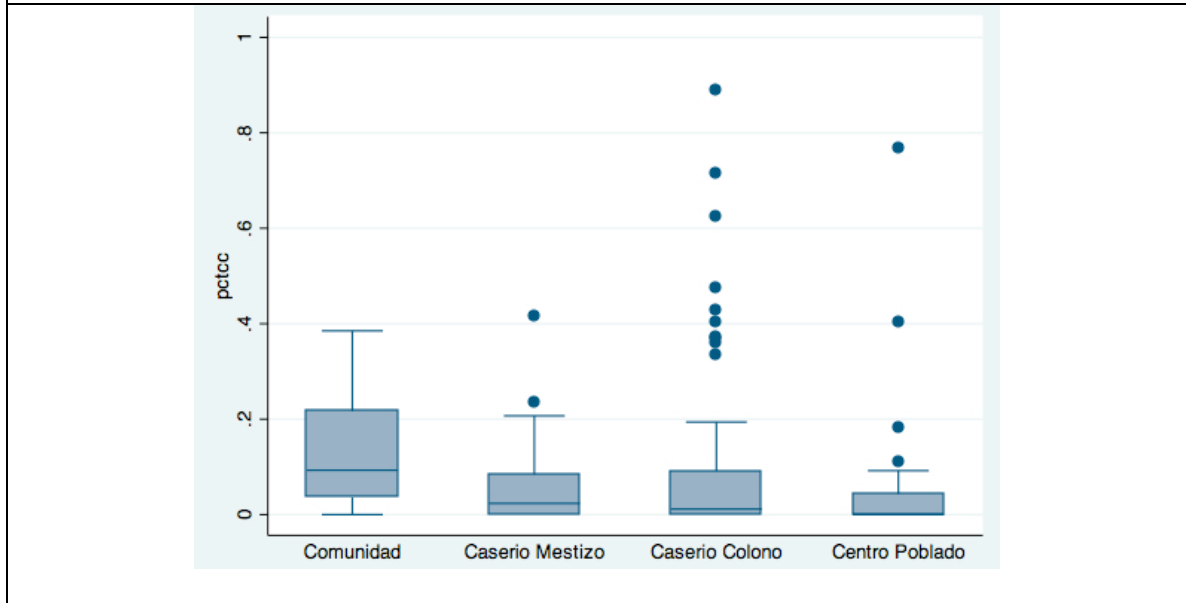


Figure 5.3. Degree of Reliance on *Choba-Choba* by Community Type



5.6. Data Limitations

The key limitation of my study is the possibility of measurement error in the farm labor variables. The two greatest potential sources of error are follows. First, in some observations the *choba-choba* variable may be miscalculated due to possibly heterogeneous labor practices. Second, the assumption of homogeneous wage labor may be an oversimplification and ignore the differential incentives associated with short- and long-term labor contracts. I now explain each of these limitations.

Measuring Choba-choba. When I tabulated the number of *choba-choba* worker-days reported by growers, I found that in several cases they exceeded the total number of family labor days that the grower could possibly have had available to return an equal amount of labor, given the grower's family size. This was often the case when the grower's family was very small. My examination of mutual aid was limited to the survey, with a handful of supplemental conversations. The growers with whom I spoke presented

mutual aid to me as an equal exchange of labor days. However, the long distances from growers' homes to fields, and the long distances between fields, made direct observation of mutual aid difficult.

Hence, my survey leaves a few key questions unanswered. Is mutual aid always an equal exchange of labor days, or are there more complex and potentially unequal forms of labor exchange going on? Do mutual aid obligations differ between men, women, children, youth, and the elderly? Furthermore, the mutual aid groups differ widely in size. What factors determine the size of the mutual aid group? Finally, are there exogenous conditions that affect the degree of efficiency of mutual aid? Recognizing the endogeneity of mutual aid to a wide variety of additional factors would have deepened my model and possibly given rise to additional data collection and alternative specifications. However, there was not time to investigate these questions in sufficient depth. Inaccurate respondent recall may also have played a role in generating the data problems described above.

Different Grades of Hired Labor. The second limitation of my data concerns the possibility of heterogeneous hired labor. Bhandari (2001) showed that close social relations dampen the disincentive effects of tenancy and bonded labor contracts in Nepal. Eswaran and Kotwal (1985) argue that short-term and long-term agricultural labor contracts possess different incentive structures. My survey, however, assumed that hired wage labor is homogeneous in quality. The possibility exists that long-term and kin-based forms of wage labor may be similar to mutual aid in their incentive effects, though the liquidity problems addressed in section 5.3 will still be present as long as wages must be paid in cash on a regular basis.

5.7. Regression Equation

I estimate the relationship between *choba-choba* and cooperative patronage using ordinary least squares (OLS). My dependent variable, cooperative patronage, is given the variable name *PP*. In equation (1) below, PP_i refers to the percentage of the i^{th} grower's harvested coffee that the grower markets through the cooperative. PP_i is regressed on the controls X_i and the mutual-aid variable. The regression is specified as follows:

$$(5.7)PP_i = \beta_0 + \beta_1 X_i + \beta_2 MA_i + \varepsilon$$

MA_i , my treatment variable, is an estimate of the percentage of total labor applied to the grower's farm that takes the form of mutual aid (*choba-choba*). For my base specification, I include a vector of control variables, X_i , which is described below in Table 5.3.

Table 5.3 List of Regressors for Base Specification	
Description	Label
Premium Adjusted (for Humidity)	<i>PA</i>
Dividend Received	<i>DR</i>
Percent of Labor Performed by Family	<i>FAM</i>
Hectares in Coffee Production	<i>HA</i>
Organic Certified Dummy	<i>OR</i>
Years of Education of Household Head	<i>ED</i>
Household's Tenure in Cooperative	<i>TN</i>
Household Characteristics Dummy	<i>HC</i>
Received Credit Dummy	<i>RC</i>
Child Labor Dummy	<i>CL</i>
Indigenous Community Dummy	<i>IC</i>
Education interacted with dividend	<i>ED*DR,</i>
Tenure interacted with dividend	<i>TN*DR</i>
Hectares in coffee interacted with premium	<i>HA*PA</i>

A detailed description of these variables, along with their means, medians, standard deviations, maxima and minima, is given in Table 5.4 on the following page. In addition

to the variables from my base specification, I also describe the variables for my alternative specifications, which will be outlined in detail later in this section.

Before running the regression on my base specification, I remove observations that contain values of any of the above regressors that lie more than two standard deviations above the sample mean. This procedure eliminates the possibility of extreme values influencing the results. For instance, one grower in my sample cultivates 24 hectares of coffee. This grower's behavior will affect disproportionately the measured impact of landownership on cooperative patronage. Removing extreme values will also reduce the possibility of inaccurate respondent recall. One grower in my sample reported being paid by the intermediary an average price of 84 S/qq for his coffee. This price lies so far below the sample average that one might question its accuracy. A few growers, as well, reported levels of mutual aid that comprised over 50% of their total farm labor used. Most of these growers came from migrant villages (*caseríos colonos*), comprised of growers originally hailing from another region of Peru. It is possible that the word *chobachoba* has a different meaning, or refers to a different custom, in indigenous versus migrant villages. It is also possible that the growers misunderstood the question. Table 5.4 reflects the original sample before the removal of the outliers.

Using the truncated sample, I provide a correlation matrix describing the pairwise correlations between all of these variables, along with their significance levels, in Table D1, Appendix D.

Table 5.4 Detailed Description of Variables						
Dependent Variable						
Label	Description	MEAN	MED	STDV	MAX	MIN
PP	Proportion of total harvested coffee marketed through the cooperative by the grower (between 0 and 1)	0.59	0.65	0.31	1	0
Treatment Variable						
Label	Description	MEAN	MED	STDV	MAX	MIN
MA	Percentage of total labor applied to the grower's plot that takes the form of mutual aid (<i>choba-choba</i>)	0.088	0	0.16	0.9	0
Control Variables						
FAM	Percentage of total labor applied to the grower's plot that takes the form of family labor	0.49	0.5	0.22	1	0
PA	Difference between co-op delivery price and average price paid to the grower by all intermediaries, adjusted for reported humidity differences, in Peruvian Soles (S/)	-15.28	-10.5	48.82	159.1	-150.2
PR	Difference between co-op delivery price and average price paid to grower by all intermediaries, without adjusting for reported humidity differences, in S/	33.63	30	36.71	190	-60
DR	Size of the co-op's dividend paid to the grower, without adjusting for reported humidity differences, in S/	48.364	51.95	23.78	190	0
PCOOP	Price paid to the grower by the cooperative, in S/	248.55	250	26.26	313	196
APINT	Weighted average of all prices paid to grower by all intermediaries, in S/	214.916	211.85	31.35	295	84
HA	Total number of hectares under coffee cultivation possessed by the grower	3.8440	3.00	3.001	24	0.7
ED	Number of years of education of most educated member of grower's household	6.2	6	2.901	14	0
TN	Number of years that grower's household has been a member of the cooperative	4.48	3	2.41	8	1
OTHY	Gross income from sources other than coffee growing, measured in S/	1479.36	250	3908.41	41800	0
Dummy Variables						
		VALUE OF 1		VALUE OF 0		
OR	Dummy variable that takes the value of 1 if the grower is certified organic	105		45		
HC	Dummy variable that takes the value of 1 if the grower's home possesses cement or wooden floors, brick or wooden walls, or tiled roof	77		73		
RC	Dummy variable that takes the value of 1 if the grower received credit	23		127		
CL	Dummy variable that takes the value of 1 if the family has at least one child under the age of 18 working full-time in the fields	23		127		
LD	Dummy variable that takes the value of 1 if the grower has served any position of leadership within the cooperative	23		127		
IC	Dummy variable that takes the value of 1 if the grower resides in an indigenous community	25		125		

Note: the identical distribution of the dummy variable between *RC*, *CL* and *LD* is purely a coincidence.

I now proceed to explain my choice of control variables for the base specification.

The first exogenous regressor given, PA_i , measures the difference between the delivery price paid by the cooperative to the i^{th} grower and the price paid by the intermediaries. I adjust this premium to account for the substantial differences between the humidity levels

of the raw coffee beans marketed through each of the two channels. These humidity levels were the growers' estimates, reported to me at the time of the survey. I asked each grower to estimate the humidity level of each shipment of coffee made to both the cooperative and the intermediary during 2006. Since the humidity level is a factor determining the weight of the coffee bean, humidity is an economic variable that a grower would have an incentive to remember. Nonetheless, the possibility of inaccurate respondent recall is ever-present; hence, I also include an unadjusted premium variable (denoted PR) in later specifications. I explain the process of adjusting for humidity in detail in Appendix C; the following paragraph provides a brief synopsis.

According to the coffee growers, cooperatives and intermediaries hold very different standards regarding the humidity level at which they will accept raw coffee. The cooperative will not accept coffee at humidity levels above 18%; the intermediary regularly accepts coffee at humidity levels of 25% or more, sometimes even at 40%. A humidity level of 40% means that water takes up 40% the weight of the coffee bean. Adjusting the weight of the coffee beans for humidity thus gives a more accurate picture of the prices paid by the cooperative and the intermediaries for an equivalent number of coffee beans. As a measure of the price premium paid by the cooperative, I expect that PA will enter the regression with a positive and significant sign. *Ceteris paribus*, a higher real premium paid by the cooperative in its delivery price will call forth a larger portion of the grower's product.

The next regressor in my base specification, DR_i , measures the dividend paid by the cooperative to the i^{th} grower. The cooperative pays dividends that vary based on the quality of the grower's coffee. An experienced grower who is aware of the quality of her

coffee beans is likely to anticipate the size of the dividend. All else equal, a grower who has harvested lower-quality coffee should anticipate a smaller dividend and sell a larger portion of her beans to the intermediaries. Conversely, a grower who has harvested higher-quality coffee should anticipate a larger dividend, which bolsters that grower's incentive to market coffee through the cooperative. Hence, I predict that a larger dividend DR_i will be associated with a larger portion of coffee marketed through the cooperative: the coefficient will be positive.

My next set of controls represents the characteristics of the coffee grower household. Five variables perform this function:

- FAM_i refers to the percentage of on-farm labor performed by full-time members of the i^{th} grower's household.
- HA_i is the number of hectares of coffee the i^{th} grower's household cultivates. This is one of several measures of wealth that I include.
- OR_i is a dummy variable that takes the value of one if the i^{th} grower's plot is certified organic.⁴⁰
- ED_i measures the number of years of schooling attained by the most educated member of the head couple of the i^{th} grower household. This person is usually the husband; if the wife is more educated than he (a rare occurrence) then I give the wife's number of years of education.
- TN_i represents the length in years of the i^{th} grower household's tenure in the cooperative at the time of surveying, and ranges from 0 (joined in 2006) to 7 (an original member from the cooperative's founding in 1999).⁴¹

⁴⁰ In cases where the grower did not specify whether or not the plot was certified organic, I considered the plot not to be organic (the dummy variable took the value zero).

I now explain the expected sign of the coefficients on each of the control variables listed above. The coefficient on the *FAM* variable is likely to be positive. As discussed in Section 2, family labor is subject to fewer incentive problems than hired labor, and commands a lower implicit wage. Hence, growers that are relatively more dependent on family labor will be more able to produce at the higher quality levels demanded by the cooperative, controlling for other factors. Dependence on family labor should increase patronage.

The coefficient on the *HA* variable may be of either sign. *HA* can be viewed as a measure of the grower household's wealth. Growers with larger landholdings will likely be richer in cash, making them less susceptible to short-term price offers from the intermediary. Thus, a higher value of *HA* may be correlated with a higher level of patronage. However, growers with larger amounts of land may also possess a wider range of options for the commercialization of their coffee. They may be able to negotiate higher prices with intermediaries, or transport their coffee into town and sell directly to exporters. Superior outside options would decrease patronage. The coefficient on *HA* itself may thus take either sign.

In addition, larger growers may behave opportunistically towards the cooperative, patronizing it when it offers a relatively high premium and reducing patronage when the premium is less favorable. All else equal, this behavior pattern would lead to lower patronage than that of a grower with a sense of loyalty towards the cooperative. Hence I

⁴¹ I had originally included a dummy variable for cooperative leadership, LD_i . This variable was to take the value of one if the i^{th} grower had served in a position of leadership within the cooperative. However, an examination of pairwise correlations (see Appendix D) revealed a positive and significant correlation between the leadership dummy and both the education dummy ($p < 5\%$) and the tenure dummy ($p < 1\%$). Hence, I omitted the variable.

include an interaction term $HA*PA$, which measures the extent to which a larger real price premium induces a larger-scale grower to patronize the cooperative. I expect $HA*PA$ to carry a positive coefficient.

Since the cooperative always pays organic premiums and the intermediaries did not generally do so in 2006, the coefficient on the OR term will likely be positive.⁴² Higher values of the variables ED and TN afford the grower a greater capacity for knowledge about the cooperative's practices, the international market, and the process of specialty coffee growing. Hence, the coefficient on each variable is expected to be positive. Growers with more total experience in the cooperative and more education should not only produce higher-quality coffee, but also understand the role that the cooperative plays in assisting growers, rewarding quality, and driving the local market price upwards.⁴³

The ED and TN variables, as proxies for human capital, may also lower the grower's discount rate. If that is so, then the anticipated dividend, DR , should have a greater effect on the grower's patronage decision than otherwise. I control for this possibility by interacting each term with the DR variable, producing the two interaction terms $ED*DR$ and $TN*DR$.

Finally, I include three additional control variables that, in addition to the coffee cultivation variable, also measure the grower household's level of economic security or wealth:

⁴² Increasingly, private intermediaries have begun paying premium prices for organically grown coffee that is certifiable under one of the accredited organic labels.

⁴³ All of these effects can be considered positive externalities of cooperative production that Fair Trade aims to internalize by offering the floor price and premiums.

- HC_i is a dummy variable that measures the overall quality of the i^{th} grower's dwelling, explained below.
- RC_i is a dummy variable that takes the value of one if the i^{th} grower received credit at any time during the year in question.
- CL_i is a dummy variable that takes the value of one if any children in the i^{th} grower's household work full-time in the fields rather than going to school.

The HC variable takes the value of one if the i^{th} grower has cement or wooden floors, brick or wooden walls, a tiled roof, or some combination thereof. Growers with cement or wooden floors, brick or wooden walls, or tiled roofs tend to be more economically secure than growers with mud floors, mud or cane walls, and thatched roofs. Hence HC is a measure of economic security. I expect HC to appear in my regression with a positive coefficient. Growers that are more economically secure are likely to be better nourished and hence possess greater physical work capacity. Also, such growers are likely to discount the future to a lesser extent.

The RC variable takes the value of one if the grower received credit during the year under survey.⁴⁴ I assume that all growers would like to receive credit, and that only the ones who can demonstrate creditworthiness will succeed in doing so. I expect the RC variable to appear in my regression with a positive coefficient. Creditworthy growers tend to be more economically secure than growers who are denied credit. Since land is often used as collateral, creditworthiness also indicates security of land tenure, an important source of economic security in agrarian developing countries. In addition, growers who receive credit enjoy greater liquidity during the harvest than growers who

⁴⁴ Problems with my data did not allow me to include a variable indicating the volume of credit; however, the observations available show that the variance of the amount of credit received is quite low; therefore, this omission should not affect the results very much.

do not. This increased liquidity allows the growers a greater ability to hire laborers to produce coffee at higher quality, which can be sold to the cooperative. It also allows growers a greater cash cushion, which allows them to tolerate the cooperative's slower payment schedule.

The *CL* variable takes the value of one if the coffee-growing household contains at least one child under the age of eighteen who works full-time in the fields instead of going to school. I asked each family whether the children worked in the fields, and whether they went to school. Children who both worked in the fields and went to school were considered to be working part-time; children who worked in the fields and did not go to school were considered to be working full-time. Sending children to school is a dominant social norm within the cooperative; I assume therefore that most growers would send their children to school if they could afford to do so. Hence, the presence of a child working full-time in the fields indicates economic insecurity. The coefficient on the *CL* dummy may appear with either sign: economic insecurity tends to be associated with worse health, lower nutrition and hence lower work capacity (Ray 1998), but recent evidence from Brazil shows that coffee-growing households may substitute away from children's education and towards child labor in response to higher coffee prices (Krueger 2007).

5.8. Alternative Specifications

The regression equation and control variables specified in section 5.7, taken together, represent the base specification for my analysis. I now outline a number of alternative specifications to consider alternative possible patterns of grower behavior. These

specifications are labeled in Table 5.4 below A through I. I explain my reasons for including these specifications below.

Alternate A: Child Labor Variable Omitted. This specification is identical to the base specification, but with the child labor variable omitted. It takes into the possibility that either the opposing effects of child labor on patronage, described above, cancel each other out, or else child labor use is simply not an important variable in determining cooperative patronage.

Alternate B: Dividend Interaction Terms Omitted. In this specification, I take into account the possibility that education and cooperative tenure do not significantly affect the way in which the grower perceives the anticipated dividend. People with more years of education are often argued to be more future-oriented than people with fewer, but this proposition is open to debate. Also, knowledge of the dividend procedure may be freely shared within the cooperative, meaning that longer tenure need not translate into more accurate perceptions.

Alternate C: Unadjusted Premiums. In this specification, I retain the original form of the regression equation in 5.6.1, but replace the humidity-adjusted premium, PA_i , with unadjusted premium PR_i . The unadjusted premium is simply the difference between the cooperative's delivery price to the i^{th} grower, and the intermediary's price, subject to the weighted average procedures described above - but not the humidity adjustment. This alternative specification takes into account the potential for growers' miscalculations of humidity, as well the possibility for intermediaries to either cheat the growers outright or simply take humidity into account while weighing the coffee. It also takes into account

the possibility that growers are simply not taking into account differing humidity levels when considering alternative price offers from the intermediaries and the cooperative.

Alternate D: Price Data Instead of Premium Data. Here I replace the humidity-adjusted premium PA with unadjusted price data collected directly from the grower. Here, $PCOOP_i$ refers to the delivery price paid by the cooperative to the i^{th} grower, and $APINT_i$ to the (unadjusted) weighted average price paid by the intermediary to the i^{th} grower.⁴⁵ Where either variable was absent, it was given the averaging treatment described above in section 5.8. This specification takes into account the possibility that growers are considering the prices offered by the cooperative and the intermediary separately from each other and independently of the humidity levels. In other words, the grower may encounter a price offer by the intermediary, and consider it independently of the cooperative's concurrent (or most recent) price offer. A higher intermediary price would lead to lower patronage, all else equal; a higher cooperative price would lead to higher patronage. Hence, $PCOOP$ should enter the regression with a positive and significant coefficient, and $APINT$ with a negative and significant one.

Alternate E: Cooperative Leadership Variable Replaces Education, Tenure, and Household Characteristics Variables. This specification tests whether the leadership variable is a better determinant of cooperative patronage than the other variables that proxy for grower characteristics.

Alternate F: Leadership Included, Household Characteristics Included, Organic Dummy Variable Omitted. This specification is based on an examination of the matrix of pairwise correlations in Appendix D. The correlation matrix indicates that the organic

⁴⁵ In this specification, the dividend variable DR remains in the regression, given that $PCOOP$ refers only to the cooperative's delivery price.

dummy variable *or* is positive correlated with six of my other regressors at the 10% level of statistical significance or below: *ma*, *dr*, *pcoop*, *ha*, *tn*, and *hc*. The latter five regressors are positively correlated with the organic dummy at the 1% level or below. I omit the organic dummy variable to test whether or not its omission affects the magnitude and significance of my other coefficients.

Alternate G: Indigenous Community Dummy. The boxplots in section 5 indicate that coffee growers who live in indigenous communities (*comunidades*) are more likely to engage in *choba-choba* than coffee growers who do not. For this specification, I test whether controlling for indigenous community residence affects the relationship between reliance on *choba-choba* and cooperative patronage, by adding a dummy variable that takes the value of one if the coffee grower in question resides in an indigenous community.

5.9. Regression Results

The results of all of these specifications are listed in Table 5.5 on page 54. Standard errors are reported below each coefficient. Asterisks indicate levels of statistical significance, according to the key at the bottom of the table.

In the base specification, only three variables carry statistically significant coefficients: the *choba-choba* variable, the family labor variable, and the education variable. Coffee growing families who make more intensive use of *choba-choba* mutual aid patronize the cooperative to a greater extent. Specifically, a one-percentage-point increase in the proportion of total family labor performed by *choba-choba* brings forth a 0.5912-percentage-point increase in the proportion of total harvested coffee marketed through the cooperative. This coefficient is significant below the 5% level.

Likewise, an increase in reliance on family labor is associated with increased patronage of the cooperative. A one-percentage-point increase in the proportion of total farm labor performed by family household members brings about a 0.3224-percentage-point increase in the proportion of total harvested coffee marketed through the cooperative. This coefficient is statistically significant below the 5% level.

Finally, growers with more total years of education tend to patronize the cooperative less intensively, though the coefficient is very small in magnitude. An additional year of schooling is associated with a 0.0429-percentage-point decrease in the proportion of total harvested coffee marketed through the cooperative. The coefficient is significant below the 10% level.

Table 5.5. Regression Results

Dependent Variable: percentage of cooperative member's total coffee production marketed through the cooperative								
Variable	Base	A	B	C	D	E	F	G
ma	0.5912** 0.2953	0.5949** 0.2943	0.6784** 0.2872	0.5871** 0.2761	0.5405* 0.2795	0.4843* 0.2656	0.5828** 0.2754	0.5084* 0.2913
fam	0.3224** 0.1312	0.3026** 0.1268	0.3224** 0.1259	0.2827** 0.1205	0.2924** 0.1208	0.2836** 0.1176	0.2834** 0.1202	0.2463* 0.1291
pa	-0.0019 0.0013	-0.002 0.0013	-0.0005 0.0006					
pr				0.0028*** 0.0009		0.0029*** 0.0009	0.003*** 0.0009	0.0028*** 0.0009
pcoop					0.0038*** 0.0012			
apint					-0.0023** 0.001			
hapa	0.0004 0.0004	0.0004 0.0003						
dr	0.0001 0.0042	0.0001 0.0042	0.0043*** 0.0012	0.0051*** 0.0012	0.0059*** 0.0014	0.0052*** 0.0011	0.0055*** 0.001	0.0053*** 0.001
ic								0.0608 0.0764
ha	-0.0042 0.0156	-0.005 0.0155	-0.0086 0.0154	-0.0114 0.0147	-0.0112 0.0147	-0.0143 0.0143	-0.0102 0.0146	-0.0082 0.0148
or	0.1236 0.0758	0.1182 0.075	0.1111 0.0728	0.0541 0.0716	0.0306 0.075	0.0535 0.0644		
ed	-0.0429* 0.0242	-0.0415* 0.024	-0.0142 0.0104	-0.0143 0.0097	-0.012 0.0099		-0.014 0.0097	-0.0126 0.0098
tn	-0.0046 0.0303	-0.0054 0.0302	-0.0010 0.0133	-0.0009 0.0127	-0.0043 0.0131		0.0034 0.0113	0.0039 0.0113
hc	-0.0346 0.0512	-0.0359 0.051	-0.0332 0.0509	-0.0502 0.049	-0.0497 0.049	-0.0515 0.0492	-0.047 0.0487	-0.0481 0.0488
ld						-0.0146 0.0492		
rc	0.0072 0.0545	0.0066 0.0543	-0.0123 0.0517	-0.0127 0.049	-0.0111 0.049	-0.009 0.0494	-0.016 0.0487	-0.0148 0.0488
cl	-0.0458 0.0744							
eddr	0.0006 0.0005	0.0006 0.0005						
tndr	0.0001 0.0005	0.0001 0.0005						
_cons	0.4607** 0.2126	0.4591** 0.2119	0.2710** 0.1088	0.2292** 0.1047	-0.1335 0.3623	0.1515* 0.0897	0.2192** 0.1036	0.2268** 0.1043
N	114	114	114	114	114	114	114	114
r2	0.3877	0.3853	0.3653	0.42	0.4262	0.4081	0.4168	0.4204
F	4.4771	4.8223	5.9285	7.4595	6.8874	7.9667	8.2587	7.4703

*=0.1, **=0.05, ***=0.01

The R^2 of the base specification is 0.3877, indicating that the regressors in this specification explain 38.77% of the variation in the dependent variable. The F-statistic of the regression is 4.4771, indicating that the null hypothesis that all slope coefficients are equal to zero can be rejected at the 1% level of significance. The Ramsey RESET test of omitted variable bias, reported in Appendix D, Table D2, yields an F-statistic of 1.28. We cannot reject the null hypothesis that the model has no omitted variables. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity, also reported in Table D2, yields a

chi-square statistic of 0.02. We cannot reject the null hypothesis that the error term has constant variance.

Removing the child labor variable in specification A, we find that very little changes. The coefficient on the *choba-choba* variable increases very slightly, from 0.5912 to 0.5949. Its standard error decreases very slightly as well, from 0.2953 to 0.2943. The coefficient on the family household labor variable decreases very slightly, from 0.3224 to 0.3026. Its standard error also decreases very slightly as well, from 0.1312 to 0.1268. The coefficient and standard error of the education variable also decrease slightly. All variables remain at the same level of significance. The R^2 of this specification decreases slightly, from 0.3877 to 0.3853, and the F-statistic increases slightly, from 4.4771 to 4.8223. The null hypotheses of no omitted variables and homoskedasticity cannot be rejected. Clearly the child labor variable does not affect cooperative patronage very much. I omit it in all remaining specifications.

Omitting the interaction terms in specification B, we find that the sign and significance of the coefficient on the *choba-choba* and family labor variables do not change, though the magnitude of the *choba-choba* coefficient increases to 0.6784 and that of the family labor coefficient returns to its previous level of 0.3224. The major difference in this specification is that the coefficient on the dividend variable increases in magnitude and becomes statistically significant at the 1%. According to specification B, a one-currency-unit increase in the per-quintal end-of-year dividend is associated with a 0.0043-unit increase in grower patronage to the cooperative. Since the patronage variable's range is between 0 and 1, a 0.0043-unit increase translates into a 0.43-percentage-point increase. Given that the average size of the per-quintal dividend is 48

S/, the effect is rather large: according to specification B, a 48-currency-unit increase in the dividend would bring about a 0.2064-unit increase in patronage, or a 20.64-percentage-point increase. The R^2 of specification B decreases slightly in comparison to specification A, from 0.3853 to 0.3653, and the F-statistic increases, from 4.8223 to 4.9285. The null hypotheses of no omitted variables and homoskedasticity cannot be rejected.

The interaction terms clearly have no major effect on the sign or significance of the key variables in my regression, those pertaining to labor use. They also suppress the positive and statistically significant relationship between the dividend and patronage. I omit the interaction terms from all remaining specifications.

Replacing the humidity-adjusted premium with the unadjusted premium, in specification C, we find that the coefficients on the labor use variables do not change in either sign or statistical significance: both remain positive and statistically significant at the 5% level, though both coefficients and their standard errors decrease in magnitude slightly. The dividend variable coefficient remains positive and significant at the 1% level, and also increases in magnitude, to 0.0051; its standard error does not change. The unadjusted premium variable, unlike its adjusted counterpart, has a positive coefficient that is statistically significant at the 1% level. According to specification C, a one-currency-unit increase in the per-quintal price premium offered by the cooperative will bring about a 0.0028-unit increase in patronage to the cooperative, *ceteris paribus*. The mean unadjusted premium offered by the cooperative is 33 S/ per quintal. Increasing the premium paid to a grower by this magnitude will bring about a 0.092-unit increase in patronage, or a 9.2-percentage-point increase.

The overall performance of the regression in specification C improves when compared to any of the other previous specifications. R^2 rises to 0.42, and the F-statistic to 7.4595. The Ramsey RESET and Breusch-Pagan/Cook-Weisberg tests both confirm no omitted variables and homoskedasticity, respectively (details in Table D2).

Specification D includes raw price data from cooperatives and intermediaries instead of the premium variable; the key results do not change much. The *choba-choba* variable coefficient's standard error increases slightly as its magnitude decreases slightly compared to specification C; the result is a modest loss of significance ($p=0.0559$). The family household labor variable increases slightly in magnitude; its standard error and p -value do not change much. Both price variables are of the expected sign, and statistically significant. According to specification D, a one-currency-unit increase in the delivery price paid by the cooperative will bring forth a 0.0038-unit increase in patronage, or a 0.38-percentage-point increase, *ceteris paribus*. The difference between the maximum and minimum values of the cooperative's delivery price, in my *unadjusted* sample as reported in Table 5.4, is 117. An increase in the cooperative's delivery price of 117 Peruvian Soles, according to specification C, would bring about a 0.3276-unit increase in patronage, or a 32.76-percentage-point increase. The corresponding coefficient for the average intermediary price is -0.0023, indicating that a one-currency-unit increase in the intermediary's offered price will lead to a -0.0023-unit decrease in patronage. The difference between the maximum and minimum values of the average price paid by the intermediaries to the growers in my unadjusted sample is 211. If an intermediary switched price offers from the minimum to the maximum value, *ceteris paribus*, it would bring about a 48.53-percentage-point decrease in patronage.

The overall performance of the regression in specification D is very similar to that of specification C: R^2 is 0.4262, and the F-statistic is 6.8874. Omitted variable bias and heteroskedasticity are both absent. In the remaining specifications, I use the unadjusted premium, though using the raw price data would be nearly equivalent.

Specification E, which replaces the education and tenure variables with the highly correlated leadership variable, yields a noticeably different result. The sign of the *choba-choba* variable coefficient remains the same, but its magnitude decreases noticeably (0.5405 to 0.4843) while its standard error falls only slightly. Hence its *p*-value decreases noticeably, from 0.0559 to 0.0711. Meanwhile, the family labor variable coefficient decreases only slightly in both its magnitude and standard error; its *p*-value barely budges from 0.0173 to 0.0198. It appears that the family labor variable is more robust to alternative specifications than is the *choba-choba* variable. The rest of the coefficients are broadly similar; R^2 is 0.4081, and the F-statistic is 7.9667. Heteroskedasticity is not a problem. However, the Ramsey RESET test for omitted variable bias yields an F-statistic of 2.9, which implies omitted variable bias (we reject the null hypothesis at the 0.039 level of significance.) It appears that including the education and tenure variables produces a more robust specification than including the leadership variable.

Specification F omits the organic dummy variable and brings back the education and tenure variables, dropping the leadership variable. The organic dummy variable is omitted because of its close correlation with a large number of the other regressors, including landholdings, cooperative tenure, price premium, and dividend. The *choba-choba* variable coefficient increases in significance in this specification ($p=0.0368$), while the *p*-value of the family labor variable remains constant. The landholdings coefficient

reduces in absolute value, while the tenure coefficient reverses its sign. Aside from the price premium and dividend, none of the other variables are statistically significant. R^2 increases slightly to 0.4168, and the F-statistic is 8.2587. The specification tests both fail to reject the null hypothesis of no omitted variables and homoskedasticity, respectively.

Specification G retains all the variables from specification F and adds a dummy variable that takes the value of one if the grower in question resides in an indigenous community (*comunidad*). Not surprisingly, the coefficient on this dummy variable is positive, but it is not statistically significant. The coefficients on both the *choba-choba* and family household labor variables reduce noticeably in magnitude, and the standard error on both variables increases. Hence the p -value of both labor usage variables rises above the 5% threshold, but remains below the 10% threshold. None of the other variables are affected noticeably by the addition of the indigenous community dummy. R^2 increases slightly to 0.4204, and the F-statistic is 7.4703.

Taken together, these results imply a quite robust positive correlation between use of non-market forms of labor by coffee growers and patronage to their regional cooperative. Non-market labor takes two forms: family household labor, and *choba-choba*, or exchanges of labor between households. Reliance on *choba-choba* appears to have a larger absolute impact on cooperative patronage, as indicated by the magnitude of the coefficient on the *choba-choba* variable. However, the impact is also more variable, as indicated by the relatively large standard error of the coefficient. Reliance on family labor, on the other hand, appears to have a relatively smaller but more consistently positive impact on cooperative patronage, as indicated by the smaller magnitude of the coefficient and the much smaller standard error. These results are robust to a wide variety

of alternative specifications. In addition, estimation shows the growers clearly responding to the cooperative's price incentives, though the results only hold when the regressor indicating the price premium is not adjusted for humidity.

Given the results presented in this section, it is tempting for one to proclaim that non-market labor unilaterally causes cooperative patronage, especially if one is predisposed to favor non-market labor arrangements on ethical grounds. However, issues of causality cannot be avoided. First, non-market labor may be subject to selection bias. Highly productive coffee growers may self-select into labor groups with knowledge of the other growers' productivity. Second, one could raise the objection that participation in non-market labor may foster cooperative patronage due to reasons other than its inherently superior quality. Use of family labor and *choba-choba* may be associated with an overall attitude or ethic of cooperation or reciprocity, which would lead a grower to patronize the cooperative out of a sense of moral obligation, or as part of a reciprocal relationship. My data cannot detect such attitudes. However, Table A.2 implies that even if such attitudes are present, labor quality is still a factor: growers that use *choba-choba* more intensively tend to receive higher average prices from the cooperative, as well as higher dividends, than growers that do not. Third, if we accept the quality argument, my data cannot provide insight into the channels of causation through which *choba-choba* might lead to higher output quality. Synergy in teamwork may be one such channel; psychological benefits from harvesting alongside trusted friends and relatives may induce higher morale and lead to higher work intensity.

5.10. Concluding Remarks

The results of this study suggest that there exists a symbiosis between agrarian marketing cooperatives and local-level mutual aid practices. Insofar as cooperatives are able to command higher prices on international markets, growers who engage in non-market forms of labor exchange may thus be able to improve their own positions with respect to these markets. These results also confirm the symbiotic relationship between family-based farming and regional cooperation often posited in the cooperative movement. Growers who rely to a greater extent on family labor and inter-household mutual aid (*choba-choba*) patronize the cooperative to a greater extent.

My study suggests that cooperative formation will be more effective when it takes place in regions and communities that possess relatively strong family farming traditions, relatively high levels of internal social solidarity and relatively low levels of economic opportunity. Small-scale agricultural producers who reside in well-functioning, solidary communities based on family farming will likely become the most committed members of agrarian marketing cooperatives. The degree to which each of the characteristics of these communities - bonds of social solidarity, on the one hand, and lack of outside options, on the other - influence the effectiveness of mutual aid, is beyond the scope of my study.

For development microeconomics, these results suggest that mutual-aid variables should be built into agricultural household models (AHM). Most AHM distinguish between family and hired labor only. Jacoby (1993), in his estimation of production and labor supply functions in the Peruvian Sierra, explicitly aggregates mutual aid and hired labor into a single variable, ignoring heterogeneity between these two types of labor. My

study suggests that including three separate variables, one for each type of labor, would have produced more accurate results.

More research can and should be done on the role of non-market forms of labor in developing-country agriculture. Smallholder crops such as coffee and cacao in Latin America and Africa are ideal sites for the examination of these practices, because the growers of these crops often belong to long-standing traditional communities that have developed complex patterns of non-market social exchange. The interaction between pre-existing community structures and cooperative participation is one of the most potentially fruitful avenues for research on cooperatives.

CHAPTER 6

CONCLUSION

This dissertation has taken a broad look at the fair trade movement and its key institutions, focusing on certifiers, cooperatives, coffee growing communities, and the institutional structure and historical development of coffee markets. A number of key lessons emerge from the study, and in conclusion I wish to recap and highlight these lessons.

First, in order to understand the fair trade movement, one must make a distinction between the movement as a whole and the FLO certification system. The FLO certification system is currently the dominant initiative of the fair trade movement, but it is not the only such initiative, and its perspective is not the only perspective of the movement. Although the FLO certification system has undoubtedly provided a range of material and non-material benefits to farmers and farmworkers, unequal power relations between farmers and traders have exacerbated social tensions within the system as the movement has grown. The bargaining power of traders stems from their purchasing capacity, which holds the key to the expansion of the certification initiative and the conveyance of price premia to farmers.

The FLO system as it stands does address some of the root causes of poverty. It provides small-scale farmers, historically marginalized within their societies, with improved access to productive assets and capital, markets and market information, credit, training, and technical assistance, and the opportunity to participate in democratic governance of a complex organization. Yet it is not a comprehensive solution to the problems that impoverished rural regions currently face. For instance, the labor and

organizational requirements of cooperative participation and certified production are difficult to reach for the poorest farmers. Poor rural regions, such as the Lamas region of Peru, still suffer from low quality infrastructure, poor health care, and limited access to education, due to the unwillingness or inability of the state to provide a social safety net. Lastly and importantly, structural inequities in the value chains persist, which the FLO system is not equipped to address.

The best existing framework for understanding the benefits of participation in the FLO system is the capabilities approach developed by Amartya Sen and others. The capabilities approach focuses on people's opportunities to engage in desirable actions and attain desirable states of being. These potential actions and states are called capabilities; the chosen actions and states that the people actually engage in are called functionings. We can identify five separate capabilities that are enhanced by participation in the FLO coffee certification system.

- 1) The opportunity to organize cooperatively and democratically.
- 2) The opportunity to learn new production techniques that conserve the environment and increase yields.
- 3) The increased social interaction across communities, which Robert Putnam would call "bridging social capital."
- 4) Increased access to market information and low-cost credit.
- 5) Increase in self-esteem or what political philosopher John Rawls called the "social bases of self-respect."

One could argue that these capabilities or functionings stem from the growers' participation in the cooperative, rather than the FLO system. However, my data from

coffee cooperatives in Peru suggests that the FLO system is essential to keeping many cooperatives in business. So we can attribute at least some of the abovementioned benefits to the support and stability the cooperatives receive from the FLO system.

These benefits are limited, however, by existing patterns of market and state activity that surround the cooperative. In the Lamas region of northern Peru, where I did most of my field research, small farmers' market opportunities remain limited. The regional food economy remains fragmented and dominated by chemically intensive rice production and imported processed food from multinational corporations. The expansion of palm oil production in the region threatens small farmers' security of land tenure. Deforestation is widespread, threatening the major wellspring of indigenous spirituality and medicine as well as vital ecosystem services for coffee and cacao growers. Small farmers in the Peruvian Amazon suffer from lack of state support via research or technical assistance. They have formed unions of cooperatives such as the Junta Nacional del Café (JNC) to achieve this purpose, but progress on this front has been slow. Instead, they count primarily on a combination of development aid and fair trade premiums.

Turning to education and health care, available evidence suggests that participation in the FLO system does improve outcomes, but much work remains to be done. The most systematic study of this topic, that of Arnould, Plastina, and Ball (2009), found that members of FLO-registered coffee cooperatives in three Latin American countries were more likely to have their children in school than non-members, and more likely to receive adequate health treatment for a variety of illnesses. In the Lamas region of Peru, the majority of the children of the Oro Verde cooperative members are able to attend primary school, but 8% of families I surveyed had children under the age of 13

working full time in the field. The corresponding figure for adolescents ages 13-17 was 10%. Broadly speaking, we can conclude that the FLO system offers a step in the right direction, away from poverty and social exclusion, for farmers that are able and willing to access it. However, it is not enough to solve the equation by itself.

As presently constructed, FLO and its related initiatives are unable to provide a radical or revolutionary transformation of the global trading system. To its credit, the system does contain some of the desirable features that such a transformed system might have. These, in particular, are: shortened supply chains, stabilized prices that reflect production costs, a strong role for cooperative enterprise, and rewards for environmental protection. There are two major limitations of the system, however: first, a predominant European and North American cultural bias, and second, a failure to address inequities in asset ownership between Northern and Southern participants.

In light of existing ethnographic fieldwork, is clear that there is a cultural bias in the FLO standards. In particular, the standards' specifications for environmental management reflect predominantly European and North American-derived techniques of agronomy and ignore indigenous agricultural and land management methods, thereby devaluing the worldviews or cosmovisions that underlie such methods. Given the extraordinary diversity of environmental management techniques and cosmovisions worldwide, the most culturally sensitive approach for FLO to take would be to lay out guiding principles rather than precise specifications, and require the local FLO representatives in the origin countries to become versed in the indigenous practices instead of rigidly adhering to predefined formulas or checklists.

Secondly, the FLO system also leaves intact the status quo of unequal ownership

of productive assets that make up the coffee value chain. In the case of coffee, this means that growers do not profit from the activities of the coffee roasting companies of the global North. Roasting companies based in Europe and the United States thus continue to appropriate a portion of the value of coffee farmers' output - represented by the inherent unique qualities of that output such as aroma and region-specific taste profile or "terroir." A truly equitable coffee value chain would reward farmers for the full value of their output; even under FLO certification, the coffee industry does not do this.

Unequal bargaining power amongst the parties to the FLO system has severely limited its positive impacts. As the system has expanded, the level of *per capita* monetary benefit granted to participating coffee farmers has eroded over time. This erosion has occurred through two main channels. First and foremost, the real purchasing power of the minimum price, which is denominated in US dollars, has decreased due to price inflation and the weakening of the dollar by an estimate of 39% from 1988, when the minimum price was first set, until 2005 (Bacon and CAFENICA 2006). Second, the standards have simultaneously become more difficult and more costly for producers to implement. At the other end of the chain, corporations' required commitments to enter the system have decreased. Originally, FLO and its national initiatives mandated a 5% entry commitment, though this commitment was never enshrined in the standards. But in 2000, Starbucks Coffee entered the system with a 1% commitment, and larger corporations such as Nestle have entered with even less than that.

As a result of inequities in bargaining power between farmers and corporations, certifiers do not have an economic incentive to act in the best interests of the farmers. The superior fallback position of the corporations means that they can credibly threaten

to pull out of the system if their demands are not met. The farmers cannot credibly threaten to do this, since their fallback position is the private market dominated by intermediaries and large traders. Hence the rigor of the standards is allowed to erode over time as economic conditions change. Certifiers, while predominantly nonprofits, are nonetheless businesses; they need to stay in operation and to do so, they aim at financial self-sufficiency, which to them means independence from foundation grants. In order to raise certification revenues to expand operations, they need to work with corporations, which are the single most substantial source of those revenues. The unfortunate result is that, instead of becoming dependent on the largest funding agency, the certifier becomes dependent on the largest certification client.

Meanwhile, corporations that seek to maximize shareholder value have been able to utilize the FLO system as a public relations strategy. They bolster their public image by "fair-washing," or making cosmetic commitments to fair trade purchasing that are accompanied by disproportionate self-promotion campaigns. The success of fairwashing rests on consumers' susceptibility to advertising claims, relative inattention to intangible or "credence" attributes of products, and difficulties in rigorous consumer monitoring of corporate activity.

A major exception to this overall tendency for the benefits to erode is the 2007 decision by FLO to raise the social and organic premiums. The social premium is a per-pound subsidy that sits on top of the minimum price. It was designed to enter a separate account for the cooperatives to spend exclusively on group projects, and not disburse to the farmers in the form of income. The organic premium is a required subsidy that FLO certified buyers must pay for coffee that is also certified under an organic standard, e.g.

IMO or QAI. These increased premiums occurred primarily as a result of organized action by the farmers, through the regional farmer networks: CLAC, AFN, and NAP. These networks came into being through intense international, cross-cultural organizing by farmers and their allies, overwhelmingly within the global South.

Progressive scholars should not pronounce the FLO system a failure just because of these limitations. We should instead learn from its limitations and use our knowledge as a basis for further strategizing and support for ongoing efforts to address these failures. For instance, the establishment of a fair trade consumers' association would strengthen the power of consumers to influence corporations' behavior through boycotts and bad press – this is the factor that Michael Conroy (2007) cites as the major force driving the certification movement. From the farmers' end, there may be potential to increase farmers' returns through the establishment of international social investment funds, which would allow farmers to either purchase shares in coffee roasting companies, or – better yet – create new profit-sharing ventures in partnership with startups based in the global North.

In order to understand the historical conditions that gave rise to the fair trade movement and the FLO system, it is necessary to trace out the institutional changes in international commodity chains that have given rise to unstable and increasingly impoverished livelihoods in agrarian regions of developing countries. Chapter 3 provides this analysis. The main thesis of the chapter is that the coffee commodity chain cannot be understood without reference to the institutions of which it is composed. This insight stems ultimately from Karl Polanyi, whose work conceptualized markets as instituted processes. The coffee commodity chain is composed of a set of nested and interrelated

institutions of trading, contracting, quality management, regulation, and governance.

Following the work of political economists Robert Bates and John Talbot, I demonstrate how major institutional shifts – the interruption in coffee export quotas and subsequent fall of the International Coffee Agreement – brought about changes in the distribution of income along the coffee commodity chain: a shift in the distribution of income towards consuming countries and away from producing countries.

In order to understand the full impact of the FLO system on coffee farmers, one must examine the institutional structure of agrarian market cooperatives. Agrarian marketing cooperatives are the direct beneficiaries of the FLO certification system for coffee; farmers benefit from FLO participation through their participation in these cooperatives. Chapter 4 reviews the theories and evidence surrounding the efficacy of agrarian marketing cooperatives in improving the welfare of farmers. The chapter makes four major points. First, I conclude that indeed, agrarian marketing cooperatives hold great potential for increasing the welfare of small farmers, provided that corruption and excessive state involvement are avoided or minimized. State support for cooperatives, however, through favorable legislation and access to low-cost credit and/or complementary services, is necessary. Second, I conclude that the economics profession has had difficulty explaining the growth and persistence of these important economic institutions, due to the exclusive focus on static allocative efficiency and the assumptions of methodological individualism. A major exception is the heterodox theory of Bowles and Gintis, which argues that cooperatives are more efficient than investor-owned firms due to lower required levels of worker monitoring. Another important exception comes from Amartya Sen, who argues that incentives in cooperatives may be excessive if

workers are paid according to the amount labor they contribute. Empirical evidence shows that agrarian cooperatives are no less efficient than private agribusiness firms. Third, theories of imperfect competition in agriculture hold that the presence of a marketing cooperative in an agricultural region can improve the competitiveness of the local or regional output market, pushing up prices and improving farmers' welfare. The cooperative, with its higher prices, acts as a "barometer of exploitation" or a "competitive yardstick." Fourth, economic theory and empirical results both suggest that participation in the FLO system is likely to improve the efficiency of cooperative operations. I conclude the chapter with a simple mathematical model that indicates the channels through which participation in a fair trade scheme such as FLO might affect the net income of a cooperative. This income will be distributed to farmers and thus increase farmer welfare. The model predicts that the impact of fair trade participation on cooperatives will be positive, provided that increased costs from certification do not outweigh the benefits gained from higher prices and improved access to services and inputs.

In chapter 5, I explain empirically a problem that was very common among cooperatives I visited in Peru: the problem of outside sales. Cooperative officials and managers were often complaining about members' persistent sales to private intermediaries. Outside sales pose a problem for cooperatives because the prevalence of such sales makes total cooperative output impossible to predict. The uncertainty leads the managers to become very conservative in signing contracts, and thus risk scrambling to find buyers at the last minute if output exceeds expectations. Moreover, persistent outside

sales weaken cooperatives over time, as they have less revenue to purchase and maintain productive assets, and provide high-quality services to their members.

In my empirical study, I found that the most consistent explanatory variables that correlate with outside sales are the form of labor used on the farm. I divided labor into three categories: family, wage, and a mutual aid practice called *choba-choba*. Family labor refers to labor performed by full-time, resident members of the farm household. Wage labor refers to hired labor paid by the day or by the weight of coffee harvested. *Choba-choba* is an Amazonian mutual aid practice related to the Andean mutual aid practices *ayni* and *minga*. It involves a group of households that engage in rotations of labor during the times of peak labor demand, which usually means the harvest, but sometimes the plot maintenance period as well.

I used data from a self-designed, self-administered survey to estimate the total number of family, hired, and *choba-choba* labor days used on the farm during the last year, and estimate the proportions of each labor type used by the household. I then used a simple OLS model with the percentage of farmer's sales to the cooperative as the dependent variable, and a vector of regressors that include the proportions of each labor type. I created a base specification and seven alternative specifications. In all of my specifications, the household's percentage reliance on both non-market forms of labor was positively and statistically significantly associated with their percentage sales through the cooperative. In other words: more non-market, non-wage labor, more cooperative sales; more hired wage labor, more outside sales.

Once I had found this result, I sought to explain it theoretically. I asked what observable relationships actually exist, and then asked how we might account for their

existence using economic theory. I started by asking what factors account for *choba-choba*'s existence. One possibility, which I show in a simple mathematical model, is that temporal alternations in peak harvest time, due to different coffee growing altitudes within the same community, offer the grower an opportunity to smooth out labor inputs by finding a household with whom to exchange labor services. This labor smoothing is likely to increase the grower's welfare. Another theoretically plausible explanation for the existence of *choba-choba* is that involuntary rural unemployment may lead the farmers and their family members to value their own labor at less than the market wage. Hence they would be more willing to offer a day of labor than the market wage as payment.

I then arrived three hypotheses as to why *choba-choba* might in fact be more productive than hired labor. Growers with access to more productive labor will produce output of higher quality, which will be sold through the cooperative and earn the price premium. Reciprocity motives, preferences for working together with trusted friends and relatives leading to a lower disutility of *choba-choba* labor, and higher human capital within coffee growing communities are the three most important hypotheses that suggest why *choba-choba* might lead to higher labor productivity and hence higher quality.

These exciting findings suggest the economic efficiency of cooperative labor relations based on trust and reciprocity. They also suggest a symbiosis between cooperation at different levels of organization. Cooperation between farm households at the community level appears to bolster cooperative development at the regional level. Finally, my result suggests that indigenous institutions such as *choba-choba* can work harmoniously with imported institutions such as agrarian cooperatives. The skillful fusion

of indigenous and imported, or traditional and modern, institutions, undertaken in a participatory and democratic manner, is a cause for hope.

Concluding briefly, it appears that the fair trade movement is very much a work in progress. Creating an alternative commodity chain that ensures sustainable livelihoods for marginalized small agrarian producers requires effective resistance against historical power structures, and effective reformulation of market relations to reflect movement objectives. To accomplish this, movement participants require a clear understanding of each link of the commodity chain and the relationships between them. The activities at each link of the chain, from farm labor to consumer choice, affect the outcomes at all of the other links. Existing commodity chains have come into being through the play of politics and self-interest, and reflect historical patterns of market activity, land use and labor control. Creating a truly fair trading system, the stated aim of the fair trade movement, requires careful examination of these commodity chains, as well as evaluation of the impact of each fair trade initiative on the well being of the least advantaged actors in such chains. The FLO certification system has now been subject to critical scrutiny for several years, and both its strengths and weaknesses have been exposed. Iterative feedback from movement participants in all quarters of the FLO certification system is more necessary than ever, in order to move both the initiative and the movement as a whole into its next phase.

APPENDIX A
ANALYSIS OF KEY VARIABLES

Table A1. Determinants of Per-Hectare Yields

Dependent variable: Peruvian Quintales (qq) of coffee per cultivated hectare (ha)		
Variable	YIELD1	YIELD2
madays	-0.0039 0.0149	
famdays	0.0076 0.0074	
hidays	0.0038 0.0067	
altitude	0.0066** 0.003	0.0069** 0.0032
or	5.6014** 2.2143	4.5789** 2.2593
ha	-1.0201* 0.5658	-1.8917*** 0.527
qq02	0.0865*** 0.0205	0.0888*** 0.0207
qq97	-0.033 0.0273	-0.0267 0.026
ma		1.3221 8.3848
fam		-3.5112 4.5606
_cons	4.0025 4.3155	12.353*** 4.4021
N	107	107
r ²	0.2899	0.256
F	8.7875	9.7001

*=0.1, **=0.05, ***=0.01

The above table measures the determinants of per-hectare coffee yields. The variables are as follows:

- *madays*: number of days of *choba-choba* mutual aid labor per hectare
- *famdays*: number of days of family household labor per hectare
- *hidays*: number of hired wage labor days per hectare
- *ma*: percentage of total farm labor performed by *choba-choba* mutual aid
- *fam*: percentage of total farm labor performed by family household labor
- *ha*: total number of hectares of coffee cultivated by the household
- *altitude*: average altitude of coffee plot, measured in meters above sea level
- *or*: dummy variable taking the value of one if the plot is certified organic

- *qq02*: number of coffee trees planted as saplings in 2002
- *qq97*: number of coffee trees planted as saplings in 1997

None of the variable for labor usage are statistically significantly correlated with per-hectare yields. Altitude (variable *altitude*) and organic certification (dummy variable *or*) both enter the regression with positive coefficients that are statistically significant at the 5% level in both regressions. The variable *qq02* enters the regression with a positive coefficient that is statistically significant at the 1% level in both regressions. The variable *ha* enters the regression with a negative sign that is statistically significant at the 10% level in the first regression and statistically significant at the 1% level in the second regression. The constant is positive but statistically insignificant in the first regression, and positive and statistically significant at the 1% in the second regression.

Table A2. Determinants of Output Prices

Dependent variables: alternative measures of average output prices received by coffee growers.								
Dep. Var	avgp	avgp	pcoop	pcoop	apint	apint	dr	dr
Specification	PRICE1	PRICE2	PRICE3	PRICE4	PRICE5	PRICE6	PRICE7	PRICE8
Variable								
madays	0.1641*** 0.0424		0.0695* 0.0395		0.0624 0.0384		0.0203*** 0.0276	
famdays	0.0235 0.0158		-0.0057 0.0088		-0.0117 0.0095		0.0051 0.008	
hidays	-0.0398** 0.018		-0.0153 0.0114		0.0121 0.0119		-0.0151 0.0111	
altitude	-0.0014 0.0096	-0.0023 0.0101	0.0114* 0.0066	0.0094 0.0066	0.0071 0.0104	0.0053 0.0112	0.0071 0.0063	0.007 0.0062
or	34.0236*** 10.2751	28.6904*** 9.8491	14.9473*** 5.5818	15.9981*** 5.7569	-4.4158 7.2098	-4.8512 7.3969	24.5037*** 5.9653	25.0896*** 5.4519
ha	2.7436 3.0694	2.1145 2.3425	-0.7343 1.7779	-0.3572 1.5095	-0.6494 2.4234	-1.1264 2.0226	0.6741 1.0996	0.6734 0.9887
ma		115.8194*** 26.4195		28.8213 23.5095		16.178 17.9227		23.6897* 13.7326
fam		46.3071** 18.14		2.7743 9.8295		-16.6156 10.6578		4.2706 8.3677
_cons	230.4228*** 19.2153	211.7916*** 16.3204	230.9955*** 10.496	224.8555*** 11.0176	211.1309*** 14.1422	223.8546*** 16.3613	19.1222* 11.4022	13.8053 10.4503
N	107	107	107	107	107	107	107	107
r2	0.2463	0.2627	0.1404	0.1083	0.0508	0.0405	0.2944	0.286
F	4.9935	7.6201	3.9672	4.2195	1.0301	1.3319	7.0161	9.0309

*=0.1, **=0.05, ***=0.01

The above table measures the determinants of the prices that the growers receive. Standard errors are reported below coefficients. The regressors are labeled exactly identically to those in Table A.1.

Four separate dependent variables are used. They are as follows:

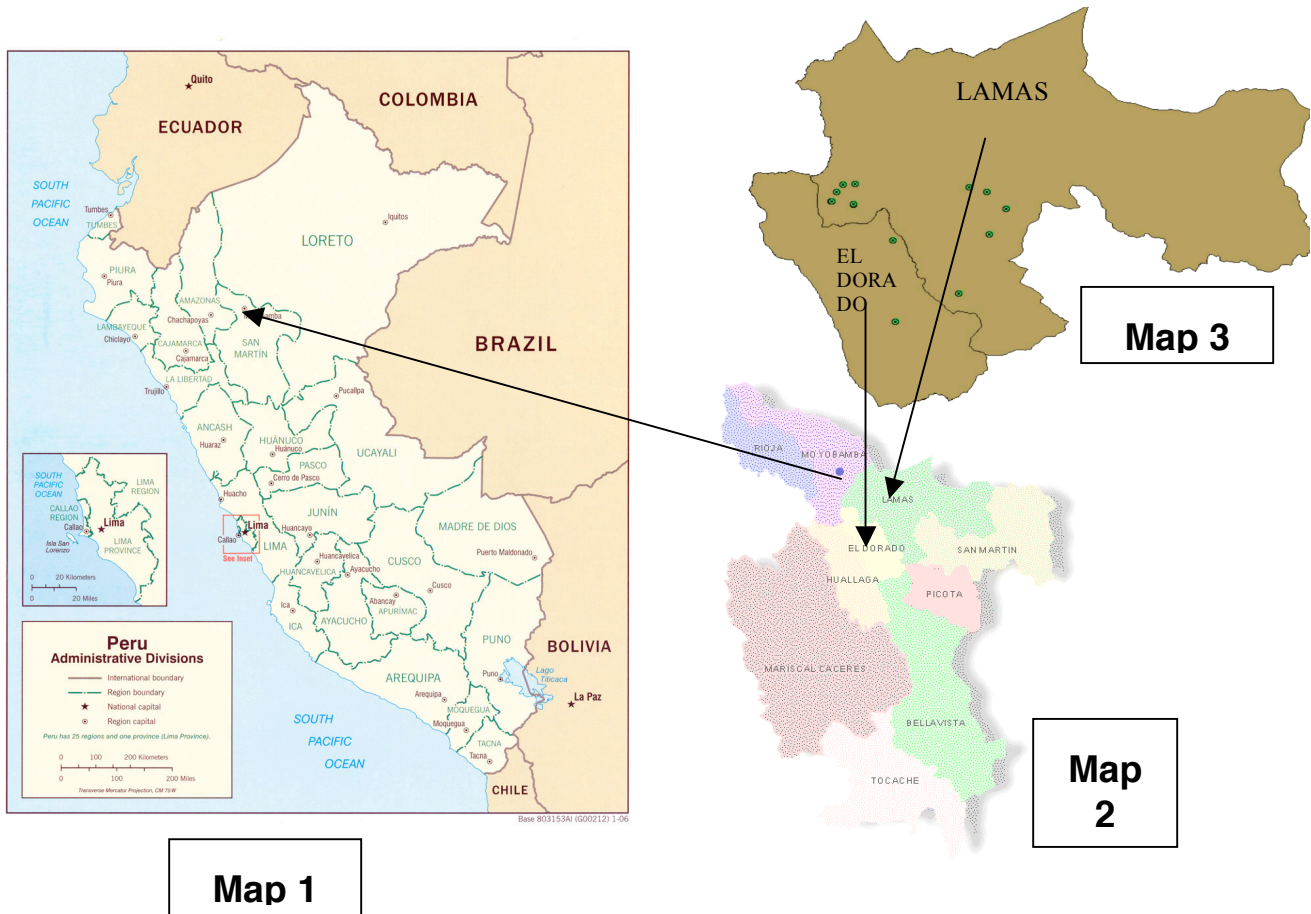
- The variable *avgp* refers to the weighted average of all prices received by the grower from all intermediaries and the cooperative, not counting the cooperative's end-of-year dividend.
- The variable *pcoop* refers to the average price that the grower received from the cooperative only, not counting the end-of-year dividend.
- The variable *apint* refers to the weighted average of all prices received by the grower from all intermediaries, not including the cooperative or its dividend.
- The variable *dr* refers to the cooperative's end-of-year dividend, excluding its first price (or delivery price).

Notable results are the following:

- The variable *madays* appears in the *avgp* regression with a positive coefficient that is statistically significant at the 1% level, the *pcoop* regression at the 10% level and the *dr* regression at the 5% level. This result indicates rather strongly that growers who use a larger number of days of *choba-choba* mutual aid per hectare tend to receive higher average prices on the whole.
- The variable *hidays* appears in the *avgp* regression with a negative coefficient that is statistically significant at the 5% level. The coefficient associated with this variable is not significant in any of the other regressions. This result provides weak evidence that growers who use a larger number of days of hired labor per hectare tend to receive lower average prices on the whole.

- The dummy variable *or* appears in the *avgp*, *pcoop* and *dr* regressions with positive coefficients that are statistically significant at the 1% level. Its coefficient in the *apint* regression is negative and very insignificant. This result suggests, very strongly, that growers whose plots are certified organic tend to receive higher average prices from cooperatives.

APPENDIX B
MAP OF REGION



Sources:

Map 1: University of Texas, Perry-Castañeda Map Collection:

<http://www.lib.utexas.edu/maps/peru.html>.

Map 2: Department of San Martín (2004).

Map 3: Bocangel (2008). Dots represent location of cooperative base communities. Not all communities are located on map.

APPENDIX C

AVERAGING PROCEDURES FOR PRICES AND HUMIDITY LEVELS

This appendix shows the derivation of following formulas:

1. The weighted averages used to compute average prices and humidity levels for growers who sold to multiple intermediaries.
2. The weighted averages used to construct artificial intermediary prices and humidity levels for growers who did not sell any coffee to intermediaries (or to the cooperative).
3. The humidity adjustments made to scale up intermediaries' prices to be equivalent to prices given in terms of cooperative-mandated humidity levels.

I calculated the *PA* variable based on the price and humidity data I collected on the survey. I asked each grower to recall the quantities of coffee marketed through the cooperative during the year in question, along with the humidity levels at which the coffee was delivered. I also asked each grower to report both the delivery price and the dividend paid by the cooperative, which I entered separately. I asked each grower to recall the quantities of coffee sold to each intermediary, the unit price received from each sale, and the humidity level at which the coffee was sold. I then adjusted the prices paid by the intermediaries to reflect the differences in humidity levels between each quantity of coffee purchased from each grower by the intermediaries, and each quantity of coffee marketed by each grower through the cooperative. I explain this process of adjustment further, and provide the formulas I used in calculating it, in Appendix B.

I created an adjustment factor to take into account different humidity levels between bags of coffee accepted by cooperatives and intermediaries. I calculate for each

sale to the intermediary a “real price” paid to the grower in terms of the humidity level required by the cooperative. Suppose a grower received 200 soles for a quintal sold to the intermediary at 25% humidity. The grower would be selling 0.75 quintals of beans, and 0.25 quintals of water. Then suppose the grower received 250 soles for a quintal marketed through the cooperative at 15% humidity. The grower would, in that case, be selling 0.85 quintals of beans, and 0.15 quintals of water. The ratio $(0.85 / 0.75) = 1.13$, then, represents the factor by which the beans sold to the intermediary must be adjusted to be equivalent in weight to the beans marketed through the cooperative. Hence, I multiply the price received from the intermediary by this factor, to arrive at 226, the “real price” of the beans sold to the intermediary in terms of the beans marketed through the cooperative. The difference between the actual price the grower received from the cooperative and the adjusted “real price” received from the intermediary is the adjusted premium, PA .⁴⁶ In this case, PA would be equal to 24. The adjustment factor varies from grower to grower according to the humidity levels reported. Formal derivations of the weighted averages and humidity adjustments, and an example of calculations my data set, are given below.

In implementing this survey, I encountered growers in three common situations: those who sold coffee to intermediaries at multiple prices, those who sold no coffee to intermediaries, and those who sold no coffee to the cooperative. In constructing my adjusted premium variable, it was necessary for me to take these three situations into account. For all growers who sold coffee to intermediaries at multiple prices, I calculate

⁴⁶ In an earlier version of this study, I had adjusted the dividend payment for humidity differences, as well. However, since I now report the size of the premium based on scaling-up the intermediaries’ price to be equivalent in real terms to the price paid by the cooperative, I need not “scale-down” the dividend payment to compensate for the humidity differences.

an average of the sale prices, weighted by the share of each sale in the total quantity of coffee sold by the grower to all intermediaries. I then construct, by similar means, a weighted average of the humidity levels of all the sales of coffee to the intermediaries by the grower in question, and adjusted the prices accordingly. I then calculate the *PA* variable as the difference between the cooperative's delivery price and this adjusted weighted average.

For all growers who did not sell any coffee to intermediaries, I construct a synthetic average intermediary price by averaging the weighted average prices paid by all intermediaries to all growers living in the same community as the grower in question. I then adjust this average-of-averages for humidity differences, by performing a similar operation on the corresponding humidity levels. I then calculate the *PA* variable as the difference between the delivery price received from the cooperative and this adjusted average-of-averages.

For the few growers who did not market any coffee through the cooperative, I average the prices paid by the cooperative to all the growers living in the same community as the grower in question, weighting the prices paid by the share of the total amount sold to the cooperative by each grower in the community. I perform a similar operation to calculate the humidity levels.

The relevant formulas are specified on the next three pages.

1. Weighted Average of Intermediaries' Prices

$$(A.C1) AP_i = \sum_{j=1}^J w_j p_{ij}$$

$$(A.C2) w_j = q_{ij} / q_i$$

The variables in the above equations are defined as follows.

AP_i = Weighted average of prices paid by all intermediaries to the i^{th} grower, in Peruvian soles per quintal (S/qq)

p_{ij} = Price paid by j^{th} intermediary to i^{th} grower

q_i = Total number of quintals sold by the i^{th} grower to all intermediaries

q_{ij} = Number of quintals sold by the i^{th} grower to the j^{th} intermediary

2. Synthetic Average Prices

$$(A.C3) CAP_c = \sum_{i=1}^I w_i AP_i$$

$$(A.C4) w_i = q_i / Q_c$$

Where:

CAP_c = Community-level average intermediary price

AP_i = Weighted average of all prices paid to the i^{th} grower in the community in question, by all intermediaries, defined above

q_i = Number of quintals of coffee sold to all intermediaries, by i^{th} grower in the community in question

Q_c = Total number of quintals of coffee sold by all growers in the community in question to all intermediaries

A similar operation is performed with respect to cooperative prices at the community level, substituting P_{ci} for AP_i , where P_{ci} is the price paid by the cooperative to grower i .

3. Humidity Adjustment

$$(A.C5) HA_j = (1 - h_{c_j}) / (1 - h_{ij})$$

$$(A.C6) h_{ij} = \sum_{k=1}^K w_k h_{jk}$$

$$(A.C7) w_k = q_{jk} / q_j$$

Where:

HA_j = Humidity adjustment for grower j, to apply to intermediaries' prices

h_{c_j} = Humidity level of coffee marketed through the cooperative by grower j

h_{ij} = Average humidity level of coffee sold to all intermediaries by grower j

h_{jk} = Humidity level of coffee sold to intermediary k by grower j

q_{jk} = Number of quintals of coffee sold to intermediary k by grower j

q_j = Total number of quintals of coffee sold to all intermediaries by grower j

3A. Synthetic Humidity Adjustment

A synthetic humidity adjustment is performed for growers who did not sell any coffee to any intermediaries, as well as growers who did not sell any coffee to the cooperative. This adjustment is calculated identically to the synthetic average intermediary prices in section (2) of this appendix, substituting AH_i for AP_i . AH_i is a weighted average of the humidity levels accepted from grower i by all intermediaries, using the calculation method in section (1) of this appendix.

APPENDIX D

SUPPORTING STATISTICAL RESULTS

Table D1. Correlations Among All Regressors

	ma	fam	pa	pr	dr	pcoop	apint	ha	or	ed	tn	ld	hc	rc	cl	othy
ma	1															
fam	0.15+	1														
pa	0.01	0.04	1													
pr	0.11	0.12	-0.11	1												
dr	0.11	0.10	-0.23**+	0.04	1											
pcoop	0.14	0.07	0.04	0.53***	-0.26***	1										
apint	0.01	-0.07	0.16*	-0.58***	-0.29***	0.38***	1									
ha	-0.05	-0.22**	-0.07	0.13	0.21**	0.07	-0.07	1								
or	0.13	0.15	-0.09	0.30***	0.50***	0.30***	-0.04	0.31***	1							
ed	0.25***	-0.02	0.20**	-0.004	-0.02	-0.14	-0.13	0.13	0.01	1						
tn	0.2	0.25***	-0.05	0.21**	0.25***	0.37***	0.13	0.24***	0.55***	-0.06	1					
ld	0.16*	0.02	0.07	0.04	0.07	0.04	-0.01	0.08	0.04	0.31***	0.22**	1				
hc	-0.11	0.01	-0.02	0.16*	0.09	0.08	-0.09	0.24**+	0.20**	0.01	0.12	0.02	1			
rc	-0.01	-0.0003	0.11	-0.04	0.0044	0.001	0.043	-0.07	-0.01	-0.02	0.17	0.24**+	-0.0397	1		
cl	-0.10	0.18*+	-0.08	0.08	-0.03	0.11	0.02	0.05	0.12	-0.21**	0.06	-0.11	0.08	0.015	1	
othy	-0.16*	-0.29***	0.02	-0.19**	0.05	-0.23**+	-0.01	0.16	-0.04	-0.15	-0.12	-0.02	-0.032	0.08	-0.03	1

*=0.1%, **=0.05%, ***=0.01%
+ indicates that the variable is on the margin of the next level of significance. For instance, a + with no stars indicates that the variable is on the margin of the 0.1 level of significance. The cutoff is 0.005 percentage points distance.

Some noteworthy results:

- Farmers who receive a higher delivery price from the cooperative (*pcoop*) tend to receive a lower dividend (*dr*).
- Farmers who receive a higher average price from the intermediary (*apint*) tend to also receive a higher delivery price from the cooperative, and a lower dividend.
- Farmers who have larger landholdings cultivated in coffee (*ha*) tend to make use of family labor (*fam*) less intensively.
- Farmers whose plots are certified organic receive higher delivery prices from the cooperatives, higher dividends, larger price premiums from cooperatives when humidity is not adjusted for (*pr*), and also tend to have larger landholdings cultivated in coffee.
- More educated farmers (*ed*) tend to engage in *more* inter-household *choba-choba* mutual aid (*ma*).
- Farmers with longer tenure in the cooperative (*tn*) tend to make more intensive use of family labor, receive higher premiums when humidity is not adjusted for, receive higher dividends, higher delivery prices from cooperatives, have larger coffee landholdings, and are more likely to be certified organic.
- Farmers who have served in positions of leadership (*ld*) are slightly more likely to use mutual aid, and on average have more years of education and longer tenure in the cooperative.
- Farmers with more developed dwellings (*hc*) tend to have larger coffee landholdings and are more likely to be certified organic.
- Farmers who have received credit in the past year (*rc*) are more likely to have served in a position of leadership in the cooperative.
- Farmers who have one child working full-time in the fields (*cl*) use family labor, on the whole, slightly more intensively, and tend to have fewer years of total education.

- Farmers with outside income sources use *choba-choba* slightly less intensively, use family household labor much less intensively, receive lower unadjusted price premiums and lower delivery prices from the cooperative.

Table D2. Specification Tests

Specification		Ramsey RESET OV Bias (F)		Breusch-Pagan / Cook-Weisberg Heteroskedasticity (X-sq)
Base	F	1.28	X-sq	0.02
	p	0.2858	p	0.8986
A		1.11		0.07
		0.3492		0.7897
B		1.41		0.01
		0.2445		0.9107
C		1.56		0.08
		0.204		0.7828
D		1.71		0.04
		0.1707		0.8477
E		2.9		0.04
		0.0388		0.8446
F		1.74		0.05
		0.1633		0.816
G		2.61		0.04
		0.0566		0.8412

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