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The Economics of Fair Trade: A Study in the Impacts of Certifications

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Abstract: The Fair Trade label displayed on certified products is a signal to consumers that the product is produced and traded in accordance with these requirements, the aim of this article is to provide a critical overview of the economic theory behind Fair Trade, describing the potential benefits and potential pitfalls for this certification. This article will look into the very basis behind FAIR TRADE, such as the environmental sustainability or its standards. While FAIR TRADE seeks to increase financial stability for certified farmers through a number of mechanisms, including a price floor, financing from purchasers and co-ops, and longer-term ties between producers and buyers, we find that the impacts of certifications are not always as simple as they are advertised by FAIR TRADE organizations. An example of such is, that within a sample of 177 Nicaraguan coffee farmers, 77 percent of Fair Trade-certified farmers reported that their cooperative provided pre-harvest credit, while this figure was only 33 percent for farmers belonging to conventional cooperatives, examining data from 469 households from Latin American countries, we find that Fair Trade-certified farmers are more likely to report having access to credit than conventional farmers.

Key words: fair trade; fair trade certified; certified farmers; trade certification; coffee farmer

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1. Introduction

Fair Trade is a labeling initiative aimed at improving the lives of the poor in developing countries by offering better terms to producers and helping them to organize. Although Fair Trade–certified products still comprise a small share of the market — for example, Fair Trade–certified coffee exports were 1.8 percent of global coffee exports in 2009 — growth has been very rapid over the past decade. Fair Trade coffee sales have increased from 12,000 tons in 2000 (Fairtrade International, 2012b, p. 24) to 123,200 tons in 2011 (Fairtrade International, 2012a).

Whether Fair Trade can achieve its intended goals has been hotly debated in academic and policy circles. In particular, debates have been waged about whether Fair Trade makes “economic sense” and is sustainable in the long run. Development economist Paul Collier (2007, p. 163), in his book The Bottom Billion, writes: “They (Fair Trade-certified farmers) get charity as long as they stay producing the crops that have locked them into poverty.” The Economist (2006) writes: “perhaps the most cogent objection to Fairtrade is that it is an inefficient way to get money to poor producers”. Those on the other side of the debate argue that Fair Trade benefits farmers by providing higher incomes and greater economic stability. For example, Laura Raynolds (2009, p. 1083) writes that

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Fair Trade offers farmers and agricultural workers in the global South better prices, stable market links and resources for social and environmental projects" and that it "provides consumers with product options that uphold high social and environmental standards."

The emergence of modern Fair Trade labels can be traced back to 1988, when a nongovernment organization from the Netherlands began an initiative that aimed to ensure that growers of crops in low-income countries were provided "sufficient wages". The organization created a fair trade label for their products. It was called Max Havelaar, after a fictional Dutch character who opposed the exploitation of coffee pickers in Dutch colonies. Over the next few years, the concept was replicated in other countries across Europe and North America, with a number of organizations emerging, such as TransFair and Global Exchange. In 1997, the various national labeling initiatives formed an umbrella association called Fairtrade International. A common Fair Trade Certification mark was launched in 2002 and there are several Fair Trade bodies operating today.

Fair Trade attempts to achieve several goals; the primary and best-known is to provide prices that deliver a basic livelihood for producers. In addition, Fair Trade has a number of other goals, including longer-term buyer-seller relationships that facilitate greater access to financing for producers; improved working conditions; the creation and/or maintenance of effective producer or worker organizations; and the use of environmentally friendly production processes. A third-party certification process regularly checks that producers and suppliers adhere to a set of requirements whose purpose is to achieve these objectives. The Fair Trade label that is displayed on certified products is a signal to consumers that the product was produced and traded in accordance with these requirements, the aim of this article is to provide a critical overview of the economic theory behind Fair Trade, describing the potential benefits and potential pitfalls.

2. The Basics of Fair Trade

2.1 Fair Trade and the Environmental Sustainability Criteria

While fair trade was initially developed to ensure fair prices and better trade equity for small producers, it also incorporates, and increasingly, environmental criteria in addition to socio-economic criteria. The FINE consensus (FLO, WFTO, NEWS and EFTA) also integrates the environmental dimension, through the reference to sustainable development, into the definition of fair trade. While "the issue of the ecological costs of producing, transporting and distributing products has long emerged as secondary to the urgent need, with the emergence of environmental concerns in the 1970s and the dramatic increase in the awareness of the term sustainable development in the late 1990s, fair trade actors have been carefully considering this dimension of their action, without seeking to replace existing organic certification movements" (Diaz Pedregal, 2006). Fair trade actors have been criticised on the environmental consequences of their practices, particularly in terms of transport-related pollution and on the issue of soil depletion and biodiversity loss linked to the promotion of export-oriented commercial monocultures (Ramonjy, 2012; Diaz Pedregal, 2010). As D'Andlau, President of the French Fair Trade Platform (PFCE), pointed out in 2009: "The international fair trade movement must now fully address environmental issues if its development commitments are to remain valid in the profound global developments we are currently experiencing" (Audebert et al., 2009, p. 2). The CCTB revised its Charter of Principles in 2008 to include a section on respect for the environment and committed in 2009-2011 to an environmental project that resulted in environmental diagnostics, carbon footprints, action plans to prevent and reduce impacts, as well as training in waste reduction, eco-design, eco-management, inter-professional days (on climate change,

biodiversity), as well as the publication of practical guides and awareness tools. In addition, we can see at the certification level that almost half of Fairtrade Max Havelaar's producers were also certified "organic farming" in 2010. Beyond the association between fair trade and organic labels, triple-labelling processes are sometimes at work. The specifications of the various fair trade labels have also gradually moved closer to those of organic farming, and then to competing environmental labels, such as Rainforest Alliance. Organic farming, in its dynamics of industrialization, no longer necessarily provides good guarantees in terms of protecting biodiversity and the use of these additional labels is an environmental strategy for some companies. The issue of the environmental impact of fair trade has long been marginal, and is now being addressed with much greater interest by the various fair trade players. The two main fair trade labels for coffee in France are fair trade labels Max Havelaar and Ecocert Equitable. For Fairtrade Max Havelaar-labelled coffee, the environmental standards that apply are those contained in the new version of fair trade fair trade standards for small producer organizations (Fairtrade International, 2011). These new specifications, or standards, came into effect in July 2011. They are linked to the strategic overhaul of the Fair trade Federation system at the international level. The corresponding "product" standard, the Fair trade standard for coffee, does not contain additional environmental criteria. The "Fairtrade Standards for Small Producer Organizations" (hereafter Fairtrade Standards) have been reorganized into four chapters, one of which, Chapter 3, deals with "sustainable and ethical" production practices, including environmental criteria, as well as working conditions. These environmental criteria fall into two categories: the central criteria (to be met as soon as they enter the Fairtrade Max Havelaar system) and the development criteria (subject to evaluation based on the development plan proposed by the producers). This new distinction replaces the old distinction between minimum and progress criteria. With regard to the Ecocert Equitable label, the specifications, or "ESR - Fairness, Solidarity, Responsible" specifications apply to food, cosmetics and textiles that meet both organic and fair trade criteria (Ecocert, 2010). They are therefore common to all products. In addition, a non-certified "organic" product cannot carry the "Equi equitable Ecocert" label. Since 2010, the award of the Bio Equitable label has also been subject to compliance with the ESR repository, following the merger between the Bio Partner association and the Ecocert certifying body. Similar to Fairtrade Max Havelaar standards, there is a graduation in the degree of application of the criteria of the Ecocert repository. The "minimum requirements" are those that operators must meet in order to engage in the ESR process. The "general requirements" must be met in the first year after the ESR commitment. Operators must also comply with "progress requirements" through continuous improvements. The criteria for developing Fairtrade standards, as well as the old criteria for progress, are not a real guarantee for consumers as their application varies according to the organizations under consideration. The same is true of the Ecocert repository's progress requirements.

2.2 Fair Trade Standards

The stated goal of Fair Trade is to improve the living conditions of farmers and workers in developing countries. The specific mechanisms for achieving this goal are a combination of guidelines for price negotiation and requirements for certification, which we summarize here.

Price floor. The central characteristic of Fair Trade is the minimum price forwhich a Fair Trade-certified product can be sold to a Fair Trade buyer, which is intended to cover the average costs of sustainable production and meet a broadly determined living wage in the sector (originally set in accordance with the data of the International Coffee Organization). A Fair Trade buyer agrees to pay certified producers at least the minimum price when the world price is below this price. In all situations, producers and traders remain free to negotiate

higher prices on the basis of quality and other attributes. By providing a guaranteed minimum price for products sold as Fair Trade, the price floor is intended to reduce the risk faced by growers. As we discuss in more detail below, there is no guarantee that all coffee that meets the certification requirements and is eligible to be sold as Fair Trade is indeed sold as such. Just producing and certifying a product does not guarantee that a buyer will purchase it as Fair Trade and provide the associated benefits and price.

Although in recent years, the market price of coffee has usually been higher than the Fairtrade minimum price, data from the price crashes of the late 1990s and early 2000s indicate that the price floor can provide significant risk protection to farmers who sell their coffee as Fair Trade certified.

Fair Trade premium. Another important characteristic is a price premium, oftentermed the community development or social premium. This is paid by the buyer to the cooperative organization in addition to the sales price. Prior to 2008, for coffee, this premium was set at 10 cents per pound but is now 20 cents per pound with 5 cents earmarked for productivity improvement. The premium is designed to foster the associativity and democratic process that are tenets of the Fair Trade philosophy. The specifics of how the premium is to be used must to be decided in a democratic manner by the producers themselves. Projects that are typically funded with the Fair Trade premium include investments made to increase farmer productivity; investments in community infrastructure such as the building of schools, health clinics, and crop storage facilities; offering training for members of the community; the provision of educational scholarships; improvements in water treatment systems; conversion to organic production techniques; and so on.

Stability and access to credit. Fair Trade buyers agree to long-term contracts (atleast one year and often several years) and to provide some advance crop financing to producer groups (up to 60 percent) if requested.

Working conditions. Where workers are present, they must have freedom ofassociation, safe working conditions, and wages at least equal to the legal minimum or regional averages.

Institutional structure. Farmers are encouraged to organize as associations or cooperatives, where decisions are made democratically and with a transparent administration that can facilitate sales and administer the premium paid to the organization in an accountable manner. For some products, such as tea, bananas, pineapples, and flowers, larger enterprises can become Fair Trade certified. In such larger enterprises, joint committees of workers and managers must be formed and democratically structured.

Environmental protection. Certain harmful chemicals are prohibited for FairTrade production. The environmental criteria are meant to ensure that the members work towards good environmental practices as an integral part of farm management by minimizing or eliminating the use of less-desirable agrochemicals and replacing them, where possible, with natural biological methods, as well as adopting practices that ensure the health and safety of farm families, workers, and the community. Producers must provide basic environmental reports summarizing their impacts on the environment. The production of genetically modified crops by farmers is not allowed. (In practice, this is only relevant for a few crops for which genetically modified varieties are available to these farmers, namely cotton and rice.)

For a product to be sold under the Fair Trade mark, all actors in the supply chain — including importers and exporters — must also be Fair Trade certified. The standards are tailored for each crop and for the different actors involved in the chain. The dominant entities in the global Fair Trade system are Fairtrade International, which is responsible for setting and maintaining standards for all commodities, and FLO-CERT, an independent certification company that is in charge of inspecting and certifying producers and traders.

To obtain the Fair Trade certification, producer organizations, firms or qualified farms submit an application

with FLO-CERT. If the application is accepted, the organization goes through an initial inspection process carried out by a FLO-CERT representative in the region. If the minimum requirements are met, the organization is issued a certificate that is usually valid for a year and can be renewed following re-inspection. During the early years of Fair Trade, inspection and certification were free of charge. However, since 2004 producer organizations must pay application, initial certification, and renewal certification fees.

2.3 Does Fair Trade Work?

In side-by-side comparisons, Fair Trade-certified producers do receive higher prices, follow specified work standards, and use environmentally friendly methods. However re the changes that are *correlated* with Fair Trade production also *caused* by certification or is some other factor like the entrepreneurial capacity of the producer affecting both outcomes? What factors make producers more likely to join Fair Trade? What may happen to the advantages of receiving a higher price from being a Fair Trade producer as more producers seek to join? After taking these factors into account, the balance of the evidence does suggest that Fair Trade works — but the evidence is admittedly both mixed and incomplete.

2.3.1 Fair Trade and Higher Prices: Direct Comparisons

There is overwhelming evidence that Fair Trade-certified producers do receive higher prices than conventional farmers for their products. For example, Méndez et al. (2010) surveyed 469 households for 18 different cooperatives in four countries — El Salvador, Guatemala, Mexico, and Nicaragua — during the 2003/2004 coffee harvest. In all four countries, they find a significant positive relationship between average sales price for coffee and both Fair Trade and Organic certification. In a study of 845 coffee farmers from southern Mexico during the 2004-2005 season, Weber (2011) finds that farmers who were Fair Trade and Organic certified received an average of 12 cents more per pound of coffee sold.

Bacon (2005) examines the sales price of coffee during the coffee price crisis of 2000/2001 for a sample of 228 coffee farmers from Nicaragua and finds that Fair Trade–certified farmers obtained significantly higher prices for their coffee. Farmers selling coffee as Fair Trade received an average price of $0.84 per pound (net of costs paid to the cooperative for transport, processing, certification, debt service, and export), farmers selling coffee as Organic received $0.63 per pound, while farmers selling conventional coffee to a cooperative received $0.41 per pound. Because Fair Trade and/or Organic farmers are not able to sell all of their coffee as certified, the average price received by certified and conventional farmers for their full harvest is lower than the figures above. Fair Trade and/or Organic farmers received an average price of $0.56 per pound, while conventional farmers received an average price of $0.40 per pound.

In a follow-up study, Bacon, Méndez, Gomez, Stuart, and Flores (2008) attempt to get a better sense of the causal mechanisms behind these differences. Examining the same set of Fair Trade-certified farmers as in Bacon (2005), they find that 100 percent of these farmers felt that the cooperative they certified with helped them obtain higher prices. This figure can be contrasted to the response of farmers in conventional cooperatives. Among this comparison group, only 50 percent of farmers felt that the cooperative helped them obtain higher prices.

Given the price premium and price floor associated with Fair Trade, it is unsurprising that Fair Trade-certified farmers receive higher prices. However, what is less obvious before looking at the evidence is whether production volumes and, as a consequence, total incomes would be affected by certification. Overall, the evidence does suggest that Fair Trade is often also associated with higher output and higher incomes. Arnould, Plastina, and Ball (2009) examine 1,269 farmers from Nicaragua, Peru, and Guatemala in 2004-2005 and find that

in addition to higher prices, Fair Trade-certified farmers also have greater sales and higher incomes. Jaffee (2009) also finds the same pattern for 51 coffee producers (26 Fair Trade-certified and 25 conventional) from Oaxaca, Mexico, surveyed between 2001 and 2005. He also finds that Fair Trade-certified producers were less likely to experience food short-ages and had diets that contained more meat, milk, and cheese.

2.3.2 Selection into Certification

Another way to tackle the question of causality is to develop a deeper under-standing of what determines which cooperatives choose to become Fair Trade certified (and which farmers choose to join Fair Trade-certified cooperatives). Again, the primary research concern is that the "best" farmers or cooperatives in some difficult-to-observe but real way become certified and also produce more and obtain higher prices — that is, that there is positive selection into Fair Trade.

At a theoretical level, it is unclear whether the selection into Fair Trade should be positive or negative. On one hand, Fair Trade intentionally targets producers who are small and economically disadvantaged, with limited capital, market access, and bargaining power, which suggests that they may be negatively selected. In addition, because the price premium is a fixed amount, it is relatively more appealing (that is, the premium is a larger share of the final price) for producers selling lower-quality coffee. This too suggests negative selection. On the other hand, farmers and cooperatives who join Fair Trade tend to have some measure of organizational ability, social cohesion, and governance, which suggests the possibility of positive selection.

A study interviewed members of Fair Trade-certified cooperatives and conventional mills in Costa Rica. They found four important determinants of certification. First, it turns out that many mills in Costa Rica often also operate stores that sell agricultural products, including certain chemicals (primarily pesticides) that are banned under Fair Trade requirements. The mills that obtain greater revenues from selling banned chemicals find Fair Trade more costly and are less likely to certify. Second, mills that forecast lower prices in the future perceived a greater benefit from Fair Trade's price floor, and thus were more likely to join. Third, individual farmers who believed in environmental or socially responsible farming practices were more likely to join Fair Trade. Finally, access to information about the logistics of becoming certified and managerial ability were also important. While positive selection likely arises from the last determinant, the nature of selection from the first three is ambiguous.

Some empirical studies have estimated how various factors affect the probability of certification, usually by estimating a propensity score to match farmers belonging to certified mills with conventional producers. These studies tend to find evidence that point towards negative selection. For example, Sáenz-Segura and Zúñiga-Arias (2009) estimate a very strong negative relationship between Fair Trade certification and experience, education, and income within a sample of 103 Costa Rican coffee producers. This finding is echoed in Ruben and Fort's (2012) study of 360 Peruvian coffee farmers (also see Fort and Ruben (2009)). In their sample, farmers that are less educated and own smaller farms are more likely to become certified. This question of how farmers via cooperatives select into Fair Trade is important and understudied. We view the evidence as incomplete but suggestive of negative selection. If this is the case, then the correlational evidence may actually understate the true causal impacts of Fair Trade.

2.3.3 Fair Trade in the Long Run: Dynamics and the Role of Free Entry in Production

We now turn to the question of the dynamics of Fair Trade. Consider the case in which a small number of producers in a country are Fair Trade certified. Thus, for the same yield and quality of coffee, certified farmers earn more than the other producers in the region. Other producers observe this outcome, and, if they qualify, will likely apply to become Fair Trade certified. In other words, entry will occur. Over time, as more producers

become Fair Trade certified, holding constant the total demand for Fair Trade, the proportion of each Fair Trade farmer's output that can be sold as Fair Trade declines. Many economic models have the property that entry dissipates rents. In this case, entry could continue until the expected benefits of Fair Trade certification just equals the cost to producers. The rents that originate from the greater utility consumers obtain from consuming Fair Trade-certified products end up all going to paying the costs of certification. This process of dissipation is the centerpiece of the model developed in de Janvry, McIntosh, and Sadoulet (2012). It is also a feature, though less central, in a number of other models of Free Trade (for example, Podhorsky 2010).

Based on the predictions of their model, de Janvry, McIntosh, and Sadoulet (2012) argue that free entry represents the death knell for the notion that Fair Trade can actually help farmers in the long run. However, one needs to consider a number of other aspects before accepting this conclusion. First, a number of barriers to certification limit the extent of entry. An important barrier is limits on farm sizes. For example, when it comes to coffee, Fairtrade International targets small family farms that do not hire permanent labor year round.

Second, and most importantly, Fair Trade and other certification standards include many nonmonetary goals: creating better conditions for hired workers, creating democratic and transparent cooperatives, encouraging environmentally sustainable production, improving access to credit, and establishing stable long-term buyer–seller relationships. If a high level of entry means that higher-than-normal economic rents are fully dissipated, it also means that these other outcomes are spreading. Indeed, other certifications like UTZ, Organic, Bird Friendly, and Rain-forest Alliance have an even greater focus than Fair Trade on goals other than increased incomes for farmers.

2.3.4 Free Entry into Other Certifications

Another important issue that is not yet fully understood is the consequence of entry into certification. Fairtrade International (2012a, p. 47) reports that in 2011, 80 percent of Fair Trade-certified producers' organizations reported holding at least one additional certification: 61 percent also held Organic, 8 percent had Rainforest Alliance, and 7 percent also had UTZ.

An important role of certifications is to provide credible information to the consumer about the nature of the production process. A potential concern is that if many different standards have distinct yet overlapping requirements, then certification may introduce a measure of confusion and may therefore be less effective.

A second issue is related to the incentives and potential agency issues that can arise. In general, it may not always be in the interest of the certifying agency to enforce certification requirements fully. Although this concern potentially arises with third-party nongovernment organizations, it is particularly a concern with private certifications. For example, one critique is that some of the more recent private certifications may be little more than smart marketing and attempts to cash in on consumers' willingness to pay for sustainably produced products. The existence of these additional certifications may affect consumers' views about the validity and reliability of third-party certifications generally.

A final issue is that from the producer's perspective, multiple certifications mean multiple reports, multiple audits, greater administrative costs, and a greater tax on scarce managerial capital. Further, it is possible that the existence of multiple standards may decrease the extent to which farmers can fully understand and benefit from each certification. For example, Valkila and Nygren (2009) found that Nicaraguan farmers belonging to Fair Trade–certified cooperatives had a poor understanding of Fair Trade, including its requirements, and potential benefits. According to the authors, one reason was the multiplicity of certification schemes, quality standards, and rural development projects faced by farmers. They simply were not able to keep track of them all and to distinguish one program from another. Méndez et al. (2010) also found that farmers were often unclear or

confused about certifications, particularly about Fair Trade, although farmers did have a better understanding of Organic certification.

Overall, the consequences of the rapid growth of certifications are something we know little about, although it is potentially very important.

3. The Impacts of Fair Trade Certifications

3.1 The Impacts of Fair Trade Certifications on the Financial Stability of Farmers

Fair Trade seeks to increase financial stability for certified farmers through a number of mechanisms, including a price floor, financing from purchasers and co-ops, and longer-term ties between producers and buyers. The evidence seems to indicate that in many environments these benefits are observed. However, important exceptions do occur. For example, Raynolds (2009) collects information from interviews and focus groups with members and leaders of four cooperatives in Peru and Mexico. She reports that corporate buyers of coffee, what she calls "market driven" buyers (for example, importers that sell to Starbucks, Nestle, and Costco), in practice often refuse to buy from cooperatives that request credit. She also finds that these market-driven mainstream buyers, unlike other Fair Trade buyers, are less willing to enter into longer-term stable contracts. They often sign one-year contracts as a minimum Fair Trade requirement, but do little else to create longer-term partnerships with suppliers. However, despite the behavior of these corporate buyers, she still finds that the producer cooperatives view financing as the second-most beneficial aspect of Fair Trade — after the price floor.

Other studies confirm that Fair Trade has succeeded in increasing the credit available to farmers. Bacon et al. (2008) finds that, within a sample of 177 Nicaraguan coffee farmers, 77 percent of Fair Trade–certified farmers reported that their cooperative provided pre-harvest credit, while this figure was only 33 percent for farmers belonging to conventional cooperatives. Méndez et al. (2010), examining data from 469 households from four Latin American countries, find that Fair Trade–certified farmers are more likely to report having access to credit than conventional farmers. Interestingly, they find no relationship between access to credit and Organic certification. Since Organic buyers are not required to provide access to credit, this result suggests that the greater access to credit for Fair Trade–certified farmers may arise due to a causal effect of certification rather than due to selection. If "better" farmers are more likely to certify with Fair Trade and Organic, then one might also have expected a similar relationship between farms and credit to exist with Organic certification too. Absence of such a relationship is thus evidence against positive selection.

Perhaps the most important tool through which Fair Trade aims to provide greater stability to farmers is the price floor. However, not all coffee produced by Fair Trade-certified farmers can be sold for the Fair Trade price. In the Méndez et al. (2010) sample of Fair Trade-certified farmers from four Latin American countries, 60 percent of certified coffee was sold as Fair Trade. Among the four Fair Trade cooperatives interviewed by Dragusanu and Nunn (2014), the proportion of coffee sold in the previous year as Fair Trade was 10, 40, 53, and 80 percent. These figures are in line with official statistics of the Fairtrade Labor Organization, which report that on average 45 percent of coffee sold by Fair Trade–certified producers is sold on Fair Trade terms. This figure is lightly higher for bananas (72 percent), cane sugar (54 percent), cocoa (61 percent), and cotton (60 percent) (Fairtrade International 2012a, p. 44).

Although empirical evidence remains limited, existing studies often find that Fair Trade-certified farmers perceive and experience greater economic stability than conventional farmers. For example, Bacon (2005)

examines a sample of 228 coffee farmers from Nicaragua and finds that Fair Trade farmers report being less concerned about losing their farm in the coming year than conventional farmers.

3.2 The Impacts of Fair Trade Certifications on Farming Practices

Fair Trade and other environmental labels have been successful in promoting more environmentally friendly farming practices among certified farmers. For example, Jaffee (2009) finds that among a sample of 51 Mexican coffee farmers — 26 Fair Trade and 25 conventional — there is a strong association between Fair Trade certification and environmentally friendly farming practices. These include producing compost and applying this to coffee plants; building terraces and contour rows (to reduce soil erosion on sloped land): and building live and dead plant barriers (also to reduce soil erosion). Figure 2 shows the differences in these practices by reporting the proportion of Fair Trade producers and proportion of conventional producers in his sample that were engaged in each practice. In all five cases, the differences between the two groups are statistically significant. Similarly, based on a sample of 177 coffee farmers from Nicaragua, surveyed in 2006, Bacon et al. (2008) find that 68 percent of Fair Trade farmers had implemented ecological water purification systems, compared to 40 percent for conventional farmers. Moreover, 43 percent of Fair Trade farmers had implemented soil and water conservation practices, while only 10 percent of conventional farmers had done so.

Other certifications that target the environment also seem to increase environ-mentally friendly farming practices. For example, Blackman and Naranjo (2012) examine the impacts of Organic certification among 2,603 coffee farmers in Costa Rica (36 of them certified organic and 2,567 conventional). Using propensity score matching, they find strong evidence that organic farmers were less likely to engage in the use of pesticides, herbicides, and chemical fertilizers and they were more likely to use organic fertilizers, shade trees, and windbreaks and to undertake a variety of soil conservation measures.

Several studies as well focused at the impact of Fairtrade certification on farm practices which are beneficial to the environment. In general, these studies focus on farm practices rather than on actual environmental impact, though one study, Elder et al. (2013), does include survey data on levels of biodiversity found in Fairtrade certified and non-certified production areas. As in other impact areas, it is important to identify the effects of Fairtrade interventions. This includes the application of environment-related Fairtrade Standards, or the application of knowledge or investments gained as a result of Fairtrade certification, as opposed to the effects of other environmental initiatives implemented through Fairtrade certified co-operative structures. Positive impacts on environment-related farm practices in general, Fairtrade certification is found to have positive impacts in terms of environment-related farm practices. Qualitative evidence is provided in a number of Fairtrade supported evaluation reports. In a study of global Fairtrade banana production, Smith (2010) found that ‘Fairtrade had an indirect impact on natural resource management by supporting [small producer organisations] and plantations that were promoting environmentally friendly production. There were also some direct impacts via Fairtrade producer standards, use of the Fairtrade Premium and incentives created by the Fairtrade Minimum Price for ‘Fairtrade organic’ products, leading to improved production practices and environmental projects in the wider community’. Nelson and Smith (2011) found positive impacts of certification on cotton production in their study on Mali, Senegal, Cameroon and India, where pesticide use is a major environmental hazard. Organic and Fairtrade certification has led to a switching to less toxic pesticide. In their study of Fairtrade certified cocoa in Ghana, Nelson et al. (2014) found that the large certified cocoa co-operative, Kuapa Kokoo, had invested in organisational environmental planning and partnerships (tree planting programmes) and provided training to some

farmers in the use of approved chemicals, watershed management, rehabilitation of cocoa farms, and education on soil management, shade and disposal of containers. These activities were not mentioned by non-certified farmers. Other factors contributing to improved farm practices show that other studies have found improved farm practices on Fairtrade certified farms. It was shown that as Fairtrade requires farmers to be organized into groups or co-operatives, it is contributing to the development of structures which appear to be intrinsically beneficial in promoting the implementation of environmental good practice. Similarly, Ruben et al. (2009), in their study of Fairtrade coffee and banana production in Peru and Costa Rica found that 'with respect to sustainable land use practices, Fairtrade shows positive effects on the use of organic inputs and some reduction in the reliance on chemical fertilizers.

3.3 The Impacts of Fair Trade Certifications on the Cooperatives

The empirical evidence on whether Fair Trade has been able to strengthen local institutions remains limited. In their study of 360 randomly sampled coffee farmers in Peru, Ruben and Fort (2012) show that when comparing Fair Trade–certified farmers against matched conventional farmers, certified farmers are more likely to strongly identify with their cooperative and are more likely to believe the cooperative is important and helpful in the sales process. Interestingly, these differences are only robustly statistically significant when comparing Fair Trade and conventional farmers that are both also certified Organic. There is also evidence that suggests that Fair Trade does not foster stronger institutions. Elder, Zerrifi, and Le Billon (2012), examining 107 coffee farmers from Rwanda in 2009, find that membership in a Fair Trade–certified cooperative is associated with less trust in the leaders of the cooperative. By contrast, they found no difference on trust in the members of one's own community. Along similar lines, Sáenz-Segura and Zúñiga-Arias (2009), using propensity score matching among a sample of 103 farmers from Costa Rica, find that, relative to conventional farmers, Fair Trade-certified farmers identify less with their cooperative and perceive their cooperative to function more poorly. These quantitative findings suggests a pattern of tension between farmers belonging to Fair Trade-certified cooperatives and the cooperative itself that is consistent with the qualitative findings from a number of studies. Prevezer (2013) interviewed farmers belonging to Fair Trade-certified coffee cooperatives in Tanzania. He found that farmers commonly complained of a lack of communication about the use of the premiums, the reasoning behind decisions, and the decision-making process itself. Prevezer also found evidence of elected farmers on the boards misusing the funds — for example, by paying themselves for attending meetings. In their case study of a Fair Trade coffee cooperative in Costa Rica (Coopermontes de Oro R.L.), Sáenz-Segura and Zúñiga-Arias (2009) found a significant amount of distrust in the cooperative arising because of deficient management in the past. Mendez et al. (2010) report evidence, from surveys undertaken in Mexico, Nicaragua, Guatemala, and El Salvador, of dissatisfaction and concern over a lack of transparency, accountability, and communication on the part of cooperative members (that is, farmers) directed towards cooperative leaders. An important factor is likely a lack of knowledge about Fair Trade on the part of farmers and particularly about the existence and intended nature of the Fair Trade price premium. In their case study of a Fair Trade coffee cooperative in Costa Rica, Sáenz-Segura and Zúñiga-Arias (2009) found that one-third of producers did not know about the existence of a premium and about half felt that they had not received any benefits from Fair Trade certification. As another example, Fort and Ruben (2009) find that among 180 Fair Trade-certified coffee farmers from Peru, 12 percent did not know about the existence of the Fair Trade premium and 77 percent felt that they did not receive any benefits from the premium. Although much more research is needed, one can imagine a number of theoretical reasons why Fair Trade certification could erode trust

and increase tensions within a cooperative. With certifications come increased rents. With more at stake, it is natural that tensions may escalate. In addition, because the specifics of Fair Trade remain opaque to members, this may directly cause increased suspicion on their part.

4. Conclusion

Many consumers value goods produced in a socially and environmentally responsible manner. As a result, efficiency and welfare gains are possible from credible third-party certifications, like Fair Trade, that provide consumers with information about the production process.

The existing empirical evidence, based primarily on conditional correlations, suggests that Fair Trade does achieve many of its intended goals, although on a comparatively modest scale relative to the size of national economies. Fair Trade farmers do on average receive higher prices, have greater access to credit, perceive their economic environment as being more stable, and are more likely to engage in environmentally friendly farming practices. However, some aspects of Fair Trade and its consequences are not yet well understood. There is evidence that farmers in Fair Trade cooperatives may not be fully aware of the details of Fair Trade and can sometimes mistrust those who run the cooperative. Another issue is the trade-off between limiting certification to small-scale disadvantaged producers and allowing larger plantation-style producers to also become certified. By scaling-up Fair Trade and increasing entry into certification, the increased entry may dissipate some of the monetary benefits of certification.

Some researchers have argued that consumers may be better off using institutions that directly transfer benefits to producers in developing countries rather than using market-based mechanisms like Fair Trade, however It has long been recognized that direct transfers of money distort incentives, diverting effort away from productive activities and towards rent-seeking and corruption. For example, a number of recent studies show that foreign aid (whether it is economic, military or food aid) increases conflict (Crost, Felter, and Johnston forthcoming; Dube and Naidu 2012; Nunn and Qian forthcoming). the largest potential benefit of market- based systems like Fair Trade should not distort incentives in as deleterious a way as foreign aid. Instead, they should work within the marketplace and reward productive activities and production processes that are valued by consumers and that are good for the local environment and economy.

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