Honduran Coffee Trade:

Economic Effects of Fair Trade Certification On Individual Producers

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Abstract: Global demand for coffee has increased significantly due to emphasis placed on value creation throughout the coffee supply chain, increased consumption in emerging economies, and changes in consumer preference. The specialty coffee industry, in particular, has highlighted the economic effects on individual participants from producers to consumers. In an attempt to encourage a more equitable income distribution along the supply chain, organizations such as Fair Trade Coffee have emerged to address the welfare of producers. A simple regression analysis can be used to determine the impact of Fair Trade Certification on producer premiums obtained through these non-traditional distribution channels. The Fair Trade Model will also be evaluated based on historical market data related to the evolution of the specialty coffee industry, including similar trade models that have emerged due to increased awareness brought about by Fair Trade Coffee. This preliminary study will serve as a platform for future studies that will determine the overall impact of Honduran Fair Trade Coffee Certification on producer welfare.

Key Words: Coffee, Fair Trade, Income Distribution, Supply Chain

Introduction: Honduran coffee accounts for approximately 3.1% of the world's coffee production and is the largest agricultural export of Honduras followed by bananas and plantains. The amount of Honduran coffee exports has increased significantly in recent years due in large part to an improved distribution infrastructure, more efficient production practices, and successful efforts to curtail a recent roya (leaf rust fungus) outbreak that severely impacted growers in Central America. In fact, "Honduras ranks first in Central America, third in Latin America, and sixth globally in coffee exports by volume." (Gomez, Honduras: Coffee Annual 2015). Coffee export volumes are expected to increase by 10% during the 2015-16 season according to USDA estimates with an expected forecast of 5.9-6.1 million 60-kilo bags. Approximately 1 million of these 60-kilo bags will be imported by the United States who is the 2nd largest importer of Honduran green coffee ($213 million) behind Germany (Office of U.S. Trade, 2015).

The pricing mechanism used in the import and export of coffee is based largely on contracts traded on exchanges such as ICE where the volume of trades in futures and options is second only to oil derivatives. (ICE Futures, US). Although there are over 100 varieties of coffee, the majority of consumption is of two types: Arabica and Robusta. Each have distinguishing characteristics but the most sought after is Arabica coffee due to its milder taste and generally higher quality. The Arabica Coffee "C" contract (KC) is the benchmark used by traders for price discovery and risk management. Due to coffee's volatility and the increasing negative effects this volatility has on producers, alternative models have been introduced in order to bring stability and economic benefit to this end of the supply

chain. In the country of Honduras, cooperatives such as Café' Orgánico Marcala S.A. (COMSA) have created opportunities for the many smallholder farmers to gain better access to world markets. In addition to trade certifications that add value to the coffee, better infrastructure access and production methods are available to farmers. The non-traditional models that have emerged in the last two decades, including Fair Trade, Direct Trade, and Organic certification have primarily been associated with the specialty coffee movement. Specialty coffee is defined as "coffee that has no primary defects and has a distinctive character in the cup, and a score of 80 or above when graded according to SCAA (Specialty Coffee Association of America) Standards (SCAA Website). Given the increased emphasis on quality, market trends in developed and developing nations, and better access to markets and infrastructure, these specialty grade coffees are in much higher demand. The increased demand of specialty coffee has been the topic of an increasing body of literature concerning the welfare and sustainability of producers and their operations. The intense debate on the efficacy of NGO certification programs and their ability to provide a living wage are of particular interest.

Literature Review: The research on the effects of commodity prices on producer welfare has primarily focused around Fair Trade Coffee certification and its ability to provide stability to a volatile market. Because coffee is not regulated like other soft commodities, such as sugar or cotton, producers are particularly susceptible to market fluctuations. The main topics associated with this body of work are the economic impact of certification programs, the influence these programs have on

quality, and residual effects of these programs such as access to better healthcare and educational opportunities for producer communities. There is evidence to suggest that certification programs are beneficial but the ability to define specific economic outcomes, such as average price, are difficult due to the large number of variables and the lack of historical data related to certification. The country of Honduras is particularly difficult to define in terms of these programs primarily due to their volatile political climate in the past few decades and the lack of adequate infrastructure for coffee production. Although considerable information is available from large coffee producing countries like Colombia who have relatively stable government programs for coffee producers, Honduras has fallen behind until recently in realizing their economic potential in the coffee trade. It is necessary, therefore, to further define the economic impact on producers in Honduras moving forward (Gomez). Determining the impact of Fair Trade Coffee certification needs to move beyond the obvious distinction characterized by Carlson (p. 2), which is that "the unambiguous prediction is that efforts to brand the method of production {i.e., Fair Trade} should increase price." In other words, we know Fair Trade Coffee certification should raise the price received by producers and, therefore, should benefit producers in other ways but the evidence for this connection is still unclear.

Data and Methods: The data is derived from the historical Coffee "C" price on ICE/NYBOT and the Fair Trade USA price and premium database. The fair trade price is based on current FLO (Fair Trade Labeling Organization) pricing. The example used is for a "washed" Arabica that has a $1.40 price floor, which is

received by the producer. A premium of 20 cents per pound is paid above the price floor to farmer co-operatives for use in community-based initiatives including education programs, healthcare needs, and local infrastructure. A portion of the premium is used by the co-operatives for quality and productivity improvements and initiatives designed to create sustainable value along the coffee supply chain.

A simple regression analysis using yearly data from 2006-2015 was used to determine the relationship between prices received by producers and the impact of Fair Trade Coffee certification. The data indicated a strong positive correlation which suggests that the income received will largely depend on production levels and will be less affected by price fluctuations in the Coffee "C" market.

Results: The economic impact of the Fair Trade Coffee price floor and premiums does suggest that in a depressed market, Fair Trade Certified producers will benefit. The cost of certification, however, is not included in the current calculations so the overall economic impact is unknown without further analysis. Additionally, in markets where the Coffee "C" price is higher than the price floor offered by Fair Trade Certification, the producer will benefit from selling their coffee through traditional market channels.

The correlation of the Fair Trade Coffee certification process on overall producer welfare needs to be considered. Dragusanu, et al. (p. 224), point to studies that approach the issue "intuitively" using "matching estimates comparing each certified farmer with conventional farmers that are similar based on observable characteristics." However, improved production methods, access to new markets,

and sustainability practices will have a residual impact on prices received by the producer, all of which are benefits associated with Fair Trade Certification.

Problem Description: The purpose of this paper is to determine the efficacy of Fair Trade Coffee programs based on underlying economic principles and to consider the benefits of alternative approaches that have emerged from the Fair Trade movement. The coffee industry in Honduras has grown from a small group of farmers in the 19th century to over 110 thousand small-holder farmers and cooperatives by the beginning of the 21st century. The largest growth has occurred in the last 2 decades due to a number of factors including increased emphasis on value creation throughout the coffee supply chain, increased consumption in Honduras, and changes in consumer preference around the world. The specialty coffee industry, which started in the 1970's in an attempt to differentiate coffee quality, has taken world consumption of coffee and related production to historic levels in a relatively short period of time. Countries with adequate infrastructure, governmental support, and a reputation for quality coffee (due in part to successful marketing campaigns such as the Colombian Coffee Grower's Association), have benefited greatly from the exponential growth in demand. Countries that lack the needed components for success in coffee exportation have struggled to keep pace despite their potential for quality coffee equalling those of successful exporters. Adding to the difficulties are lack of support at the producer level where most of the participants are coffee farm workers who live in poverty. In an attempt to alleviate the disparity and promote an equitable distribution of income along the coffee

supply chain, industry related groups such as Fair Trade International (FLO) and Fair Trade USA (FTUSA) have emerged. These systems offer a price floor and certification premiums for certified participants that, in effect, act as a subsidy.

Role of Fair Trade Coffee and Value Creation along the Supply Chain: The Fair Trade Movement has its roots in the mid 20th century when Edna Ruth Byler sought "to provide sustainable economic opportunities" for artisans in developing countries by marketing their items in North America (Ten Thousand Villages, 2016). These efforts sparked a movement based on equitable treatment of all participants in the value chain and is now a $6 billion industry worldwide. The Fair Trade Movement has a distinct set of standards for producers and consumers along with a minimum price based on a living wage. The Fair Trade Coffee movement is an extension of these early ideas and is the first to provide a framework of initiatives for its members. These initiatives and the related structure eventually became the Fairtrade Labeling Organizations International (FLO). The Fair Trade Coffee movement was a natural fit for the specialty coffee industry where consumers in developed countries had the means necessary to help participants of these programs on a grassroots level by engaging in ethical consumerisim or "dollar voting". According to Fair Trade International, Fair Trade Coffee is an alternative approach to conventional trade and is based on a partnership between producers and consumers (FLO, 2016). Fair Trade Coffee participants include members throughout the supply chain from producers to roaster/retailers. To become Fair Trade Certified, members must meet minimum quality and procedural standards

and engage in continuous improvement based on industry benchmarks. General principles underlying Fair Trade are the development of social, economic, and environmental intitiatives designed to enhance the lives of the poorest participants along the supply chain.

One of the distinguishing factors of the specialty coffee industry is the focus on quality. A pioneer of the industry, Erna Knutsen, first used this term to describe "beans of the best flavor which are produced in special microclimates" in a 1974 Coffee and Tea Trade Journal (Specialty Coffee Co., 2016). Since that time, an entire industry has grown out of continuous improvement efforts on the part of producers, processors, exporters, importers, distributors, roaster/retailers, and consumers. Each member along the supply chain plays an important role in assuring the final product to the consumer meets specific standards. These standards are based on a number of factors including those set forth by the Specialty Coffee Association of America, Fair Trade Models, Direct Trade Models, and industry best practices. The "value creation" aspect of the supply chain is an important distinction between lower grade commodity based coffees from higher value specialty coffees. As coffee quality has increased due to adherence to these standards, the participants along the supply chain have benefited from the transformation. Although the variety of coffees are numerous, coffees within a country or growing region tend to be similar in origin. Individual participants are able to differentiate their products by using higher quality standards and best practices gained from industry research and cooperation. Utilized properly, these techniques can significantly increase the value to the next level particpant in the supply chain. When discussing the economics of

quality, E.H. Chamberlain pointed out that products "are continually changed, improved, deteriorated, or just made different, as an essential part of the market process" (Chamberlain, February 1953). In the case of the coffee supply chain, these value added activities work to benefit each participant by increasing the overall quality. Part of these value added activities include Fair Trade Certified processing standards in addition to organic production methods where the producer can further differentiate their product. As demand has increased for these value added coffees, Honduras has become known for its quality production. Trade Cooperatives such as Café Organica Marcala (COMSA) in the La Paz District of Honduras have developed as a result of this increased demand. As part of their value added approach, COMSA incorporates certifications including Fair Trade Coffee which are required of co-op participants. Two possible outcomes are presented as discussion:

1) The increased economic benefit realized from utilizing the Fair Trade Coffee certification is hard to distinguish due to the incorporation of other certifications and best practices associated with membership in the co-op. What is distinguishable is the guarantee of a price floor of $1.40 per pound of Fair Trade Certified coffee. In addition, there is a premium paid above the price floor (or above market price, whichever is higher) of .20 cents per pound. A portion of this premium (.05 cents) is earmarked for infrastructure improvements to production facilities as well as community projects including schools and healthcare (FLO, 2016). In the short term, these

certifications will create more demand due to increased quality and therefore producers will benefit from higher prices.

2) In the absence of barriers to entry, the short term benefits of certification will diminish as new participants enter the niche' market, ultimately eroding the niche' status of the product. As more producers enter the market, the supply will increase and the price will fall. In a market absent a price floor (Fair Trade subsidy) participants would exit the market at the point at which cost of production was prohibitive. In the case of Fair Trade Coffee, the negative outcome of participants remaining in the market by artificial means further adds to the overall supply (including non-certified coffees) therefore reducing price further for non-certification participants. In this case, the supply chain participants Fair Trade programs were designed to benefit are actually worse off. In a study on the Economics of Fair Trade, Dragusanu, et al., point out that "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" (Dragusanu, et al.). Additionally, many opponents of Fair Trade pricing models point to the artificial price floor as the primary reason some participants remain in subsistent conditions earning just enough to stay in production.

Emphasis on quality throughout the value chain along with an increase in demand in specialty coffee has the ability to outpace supply issues raised by the negative

effects of a price floor. In addition, there is a growing demand for specialty coffees in emerging markets as consumer tastes change due to increased globalization. The Fair Trade Coffee movement in Honduras has continued to bring in new participants based on this increased demand. In discussing value added differentiation, Fromm and Dubón point out the importance of coffee for developing countries where "there is evidence that small producers and exporters in developing countries can insert themselves successfully in agricultural value chains" (Fromm, Dubón, 2006). Fair Trade Coffee certification in this scenario acts as a support mechanism to a larger overall approach to value creation.

Discussion: This paper deals primarily with the economic impacts of Fair Trade Coffee initiatives on the initial segments of the coffee supply chain, including producers and processors of green coffee. In the conventional model, there are a large number of participants in the supply chain compared to the Fair Trade model and other quality based programs such as Direct Trade (coffees traded between a producer and a roaster/retailer with limited intermediaries.) In Honduras, there are over 110 thousand coffee farmers, of which 95% are small producers who farm an average of 5 hectares. There are also approximately 2 million people employed by the coffee industry in Honduras most of whom are day laborers. These are seasonal workers hired to pick coffee during harvest, which lasts from late January until late March and early April (Knox, 2016). In addition to producers there are processors who are located strategically close to the producers in order to process coffee in a timely manner. These processors often take the form of co-ops of local

farmers. The processing stage is extremely important due to the necessity of washing and drying coffees soon after they are harvested. Honduras has heavy rainfall during much of the year, which is an issue because of lack of drying stations. This has especially been problematic in recent years due to record harvests. Some processors have rented local soccer fields, turned drying beds, in order to keep up with production. The Fair Trade Coffee model is designed to benefit these two groups through the use of a system of standard practices including cultivation, harvest, processing and distribution. To become Fair Trade Certified, participants must go through a rigorous application process costing in excess of $3200 (FLOCERT, 2016). This acts as a barrier to entry for many farmers whose annual income is less than three times the amount of certification. In order to overcome this barrier, financing is also available for certification. Co-ops who are members of Fair Trade certification receive premiums above the price floor guaranteed to farmers in order to fund infrastructure projects and community development. This is in line with the purpose of the Fair Trade Model, which seeks to benefit its members socially and environmentally as well as economically.

1) Using the example of a price floor of $1.40 per pound, members of a Fair Trade Certified co-op experience less risk compared to a volatile commodities market. Given a price floor, members can plan appropriately for production and harvest using the resources available through certification. The price floor provides a "living wage" for producers and protects them from market fluctuations that would normally cause them to

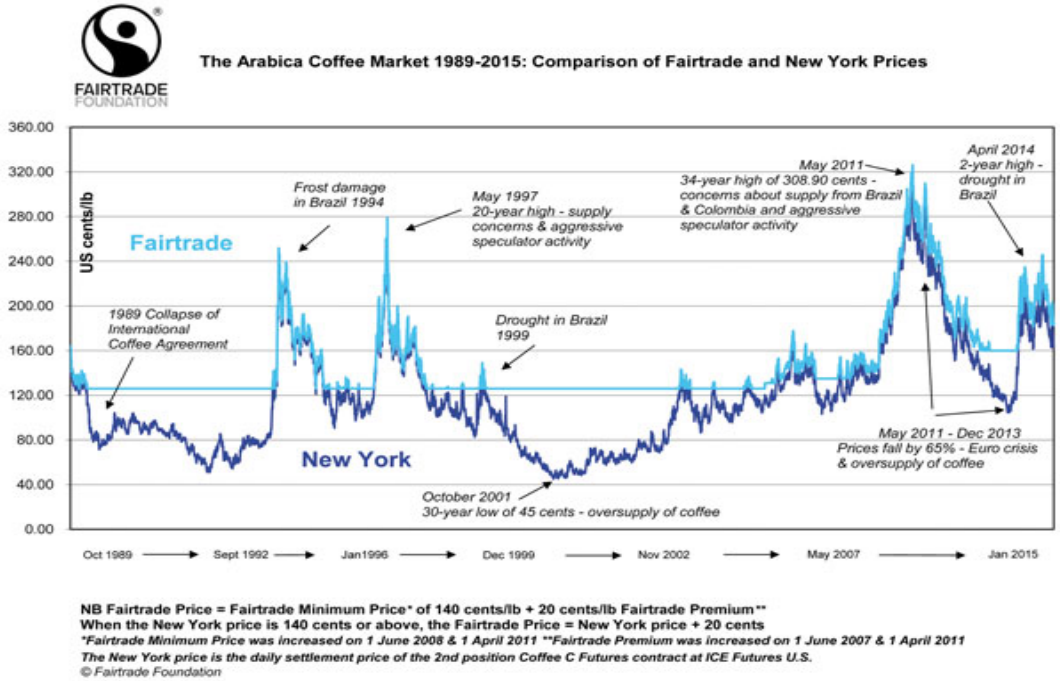
leave the industry. In Honduras, this price floor protected Fair Trade participants in recent years due to commodity prices being well below the $1.40 per pound guarantee. In addition to the price floor, co-ops will receive a premium of .20 cents per pound to reinvest in infrastructure further helping the community. Prices above the guaranteed price floor will still receive the premium. Although there are social benefits associated with Fair Trade, the question is how well do the programs work. In fact, there is data to suggest the prices received by Fair Trade participants are well above those of non-participants. In a study conducted on 845 farmers in Mexico it was found that "Fair Trade farmers received an average of .12 cents more per pound", Weber (2011). Additionally, a larger study conducted in four coffee producing countries over the 2003/2004 harvest season shows "a significant positive relationship between average sales price for coffee and both Fair Trade and Organic certification." (Mendez, et. al, 2010).

2) Opponents of Fair Trade would argue that an artificial price floor perpetuates inefficiencies in the market. A producer who would normally exit the market to find better use of their resources will remain. In addition, more entrants to the market will cause excess supply. Also, the additional compensation received from a price floor does not take into account the cost of certification and ongoing costs associated with maintaing that certification. Producers are also faced with choices of obtaining higher prices through direct trade with a roaster/retailer seeking higher quality. In the absence of Fair Trade,

> the producer could save the cost of certification in addition to receiving a higher premium for their crop. Another common argument against Fair Trade has to do with income distribution. In the Fair Trade system, farmers and farm workers are considered equal when discussing compensation. In a study conducted in Nicaragua of 94 producers and 64 farm workers it was discovered that "although the records of Fair Trade farmers indicated that they received higher prices for their coffee, their qualitative research indicated no evidence that workers received higher wages or benefited in any way from certification" Valkila and Nygren (2009).

The marginalized members of the coffee supply chain can benefit from certifications as data would suggest. It is not clear, however, how much of the benefit is derived from best practices that lead to better quality and therefore higher prices. Some would argue a type of natural selection process where the best producers remain regardless of certification. Possibly an entrepreneurial element is the cause for successful producers using certification programs as a tool for competitive advantage and not the program itself solely responsible for their success. One study suggests since existing data account for "conditional correlations" it is therefore necessary to consider the "nature of selection into certification" Dragusanu, et al. (18). Whether a positive or negative selection process, the data still suggest an increase in prices paid to certified producers. Residual benefits such as social and environmental progress also determine the efficacy of certification.

The following graph represents the Fair Trade Coffee price floor relative to the Coffee "C" New York price from 1989-2015:



(Fairtrade Foundation, 2016)

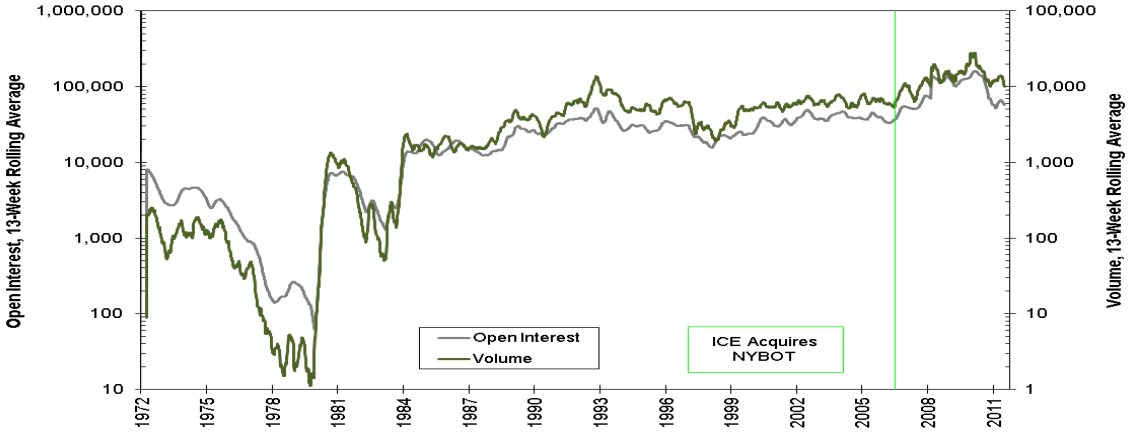
Traditional vs. Fair Trade Model: The traditional model of coffee trade derives pricing from the Coffee "C" contract price for Arabica Coffee traded on the Intercontinental Exchange. A premium is added to this base price for higher grade coffee and country of origin. Intermediaries handle coffee from producer to roaster/retailer and a certain amount of value is thought to be added throughout the supply chain. The economic goal behind the Fair Trade Model is to shorten the supply chain, therefore, leaving more income for the producer.

(Zee Bee, 2016)

The difficulty with this concept is that it assumes that value added in the traditional model can be successfully and efficiently administered with fewer participants. Opponents of Fair Trade would suggest the small holder farmers would not have capacity to process or the ability to market their coffee without the added participants in the supply chain who specialize in these functions. In fact, "many advocates believe that eliminating intermediaries in the supply chain is part of empowering producers, but the net gains to producers are uncertain" and that "there can only be a gain from eliminating these middlemen if markets were uncompetitive" (ICE, 2012). When considering the two models, value creation is a crucial factor.

The main differentiation with coffee compared to other soft commodities like sugar and cotton is that international coffee markets do not have subsidies. Proponents of the traditional model point to the longterm stability of the futures markets in coffee (due to the need of exporters and roasters to avoid risk) as evidence of its efficacy.

Longterm Success of Coffee "C" Contract (ICE, 2012)



However, due to the price volatility of the market where small producers are subject to daily price fluctuations, the Fair Trade Model emerged to act as its own version of

risk management. The question of the desirability on the part of producers requires a cost benefit analysis based on current market conditions. In the 1990's when coffee prices were at record lows, the cost of certification was worth the investment. As coffee quality, consumer preference, and record levels of demand continue, the cost of these programs may be prohibitive. The assumption in this case would be that local industry infrastructure like that promoted by IHCAFE in Honduras could eliminate or lessen the need for the standards brought about through certification models.

Conclusion: Positive correlation exists between the prices received by producers and participation in Fair Trade Coffee certification programs. The increased economic benefit realized from utilizing Fair Trade Coffee certification is hard to distinguish due to the incorporation of other certifications (such as Certified Organic) and best practices associated with membership in a co-op. What is distinguishable is the guaranteed price floor realized by participants in Fair Trade Coffee certification. This guarantee is especially beneficial in weaker commodity markets. The benefits associated with certification can be negated, however, due to the costs associated with the certification process. In markets absent a price floor (Fair Trade subsidy), participants would exit the market at a point in which the cost of production was prohibitive. Opponents of the Fair Trade Coffee pricing model point to an artificial price floor as the primary reason some participants remain in subsistent conditions earning just enough to continue production.

The Fair Trade Coffee Certification process has been helpful in establishing more than economic stability to its members. Social and environmental concerns are addressed as well, making this a balanced approach for producers and consumers. The relevant question underlying all of the advances in quality and sustainability is whether the Fair Trade Coffee model has the ability to bring, and keep, the producers out of poverty. More research into the correlation between Fair Trade Coffee certification and its impact apart from price subsidies is needed to assess the overall economic benefit to producers in Honduras.

References

Andrea. "Coffee Flows: The Honduran Industry." Web log post. *A Coffee Life: Honduras*. Knox.edu, 25 Jan. 2011. Web. 2 Apr. 2016.

Chamberlin, E. H. 1953. The Product as an Economic Variable. *The Quarterly Journal of Economics*, 67 (1), 1-29

Dupuis, J. 2015. "Coffee From Honduras." *Honduras.com.* April 21.

Dragusanu, Raluca, Daniele Giovannucci and Nathan Nunn. 2014. "The Economics of Fair Trade." *Journal of Economic Perspectives*, 28(3): 217-36.

"Fair Trade." *Zee Bee Market LLC-Fair Trade.* N.p., n.d. Web. 12 Dec. 2016.

Fromm, Ingrid, and Juan A. Dubón. "Upgrading in Agricultural Value Chains: The Case of Small Producers in Honduras." *Conference on International Agricultural Research for Development* (2006): 1-7. Print.

Gomez, A. 2015. *Honduras: Coffee Annual Report 2015*. Washington DC: U.S. Department of Agriculture, Req. Report. June 15.

"Honduras." *Economy: Population, GDP, Inflation, Business, Trade, FDI, Corruption*. Web. 28 Mar. 2016.

"Honduras - Economy Data - Data from Quandl." *Honduras - Economy Data - Data from Quandl*. Web. 2 Apr. 2016.

"Honduras Overview." *Honduras Overview*. Web. 25 Apr. 2016. <http://www.worldbank.org/en/country/honduras/overview#1>.

"Honduras." *OEC*. Web. 2 Apr. 2016.
<http://atlas.media.mit.edu/en/profile/country/hnd/>.

Luxner, L. 2001. "Smuggling Ousts Mitch as Top Coffee Threat." *The Tico Times.* January 5.

Mendez, V. E., Christopher M. Bacon, Maryl Olson, Seth Petchers, Doribel Herrador, Cecilia Carranza, Laura Trujillo, Carlos Guadarrama-Zugasti, Antonio Coron, and Angel Mendoza. 2010. "Effects of Fair Trade and Organic Certifications on Small-Scale Coffee Farmer Households in Central America and Mexico," Renewable Agriculture and Food Systems, 25(3): 236-251.

"Pioneering Business Woman." *Ten Thousand Villages*. Web. 28 Mar. 2016.

Rodríguez, G. 2015. "Is Honduras Headed for Privatization of Parts of its Territory?" *The Tico Times.* January 18.

U.S. Department of Commerce, Office of the United States Trade Representative. 2016. *U.S.-Honduras Trade Facts.* Washington DC, March

U.S. Department of State, Bureau of Economic and Business Affairs. 2015. *2015 Investment Climate Statement-Honduras.* Washington DC, May.

Valkila, J. & Nygren, A. (2010). Impacts of Fair Trade certification on coffee farmers, cooperatives, and laborers in Nicaragua. *Agriculture and Human Values* 27 (3):321-333.

Weber, J. G. 2011. "How Much More do Growers Receive for Fairtrade-organic Coffee?" Food policy 36(5): 678-685.

"What Fairtrade Does." *What Fairtrade Does*. Web. 28 Mar. 2016.

"What Is Specialty Coffee - The Specialty Coffee Co." *The Specialty Coffee Co*. Web. 2 Apr. 2016.

"World Report 2015: Honduras." *Human Rights Watch*. 2015. Web. 28 Mar. 2016.