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# Financialization and Changes in the Social Relations along Commodity Chains: The Case of Coffee

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## Abstract

This article examines distributional implications of the restructuring of international coffee markets that has occurred since the collapse of the International Coffee Agreement in 1989 and market liberalization in coffee producing countries under structural adjustment programs. It is argued that increased financial investment on international commodity exchanges, together with market liberalization, have given rise to opportunities and challenges for actors in the coffee industry. Given the heterogeneity of market actors, these tend to exacerbate inequalities already present in the structure of production and marketing of coffee.

*JEL classification: L11, O13, G19*

*Keywords: speculation; commodity markets; financialization; commodity price behavior; accumulation*

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## I. Introduction

The collapse of Bretton Woods and the abandonment of fixed exchange rates signaled the start of profound changes in the patterns of accumulation. One important result of those changes has been the increase in avenues for appropriation in the financial sector. These new avenues arose as market actors faced new risks, in the first instance those associated with floating exchange rates. New instruments – such as currency and interest rate futures, options, and swaps – arose to redress these new risks. Hedging on derivatives markets became an imperative for all actors engaged in the trading of foreign currencies. The growth of derivatives markets also provided new opportunities for speculation. These

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financial practices have become widespread in other areas of the market economy, including stock and commodity exchanges located in the United States and Europe.<sup>1</sup>

A parallel process has taken place in developing countries. The rise in importance of derivatives markets in the global economy has been reflected in the policy shift with regard to the stabilization of export earnings in commodity exporting developing countries. In the period between the end of WWII and the 1980s, intervention in commodity markets emphasized the stabilization of prices and export earnings through multilateral agreements. This policy approach was embodied in the various International Commodity Agreements (ICAs) between 1954 and 1989.<sup>2</sup> Alongside the minimum price maintenance system of the ICAs, the Compensatory Finance Facility of the IMF and the STABEX scheme of the EC were put in place to ameliorate the adverse effects of commodity export instability. In the wake of agricultural market liberalization, under structural adjustment in many commodity exporting low-income countries (LICs), the World Bank and other international policy institutions have focused not on stabilization of prices but on private, market-based, price risk management (PRM) strategies based upon the management of price risk by individual market actors in order to stabilize incomes.

Consequences of the pervasion of financial speculation into aspects of everyday life had begun to be apparent with the run on Bear Stearns in July 2008 which signaled that the U.S. sub-prime crisis and the subsequent financial turmoil was already well under way. Portfolio investors that diversify their financial interests across different asset classes, in

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1. Until the 1970s, futures exchanges were separated along the lines of different underlying assets. Until 1969 the Chicago Board of Trade (CBOT) was exclusively a grain exchange when it began trade in its first non-grain product: a silver futures contract. In 1975, CBOT launched its first interest rate futures contract, marking a break from trading exclusively in commodities. Today, the CBOT offers 13 agricultural products, 16 financial products, and 4 metal commodity products for exchange. The London Stock Exchange, which first opened in 1698, has added a large number of commodity products to its list in recent years, 5 in 2004. Thirty-one single commodities and commodity indices based on futures prices in the energy, metals, and agricultural markets are traded on the exchange, along with products based on bonds, covered warrants, exchanged funds, global depository receipts, ordinary shared and structured products.

The London International Financial Futures and Options Exchange (LIFFE) was originally set up in 1982 as a financial futures and options exchange. In 1992 it merged with the London Traded Options Market (LTOM), and a further merger with the London Commodity Exchange (LCE) took place in 1996. A diverse range of financial instruments relating to short-term interest rates (STIRs), bonds, swaps, equities, and commodities are currently traded on LIFFE.

2. ICAs existed for five commodities: sugar, cocoa, coffee, rubber, and tin. With the exception of the International Rubber Agreement, none of the price stabilization schemes under the ICAs survived the 1980s. Interventions under the ICAs consisted of a combination of buffer stock schemes and export controls that proved to be too expensive to maintain. As well as the large financial requirements of the ICAs, the agreements were based upon the cooperation of member countries which proved impossible to sustain given the actions of non-members. The eventual lapse of the international coffee agreement was the result of contributing pressures originating from consumer and producer countries. On the consumer side, there has been a shift in consumer tastes away from low grade robustas (grown in Vietnam, Brazil, Indonesia, and parts of sub-Saharan Africa) towards high quality arabica beans (produced in Columbia, Kenya, Tanzania, and Central America). Arabica coffees had historically received a higher premium under the International Coffee Agreements (ICoA). At the same time, the ICoAs permitted unlimited exports to non-member consuming countries at free market prices, which irritated consuming member countries. Changing consumer tastes, and the patterns of coffee demand, also resulted in a distribution of benefits, under the quota system, between producer countries that deviated considerably from the free market outcome. The producers of arabica coffee (mostly from Central America) perceived the existing ICoAs as acting primarily for the benefit of Brazil and other robusta producers and consequently were not prepared to agree to a fifth ICoA unless the quota allocations were reallocated in their favor (Gilbert 1996).

the name of risk management, have cemented a negative correlation between the price of commodities and other asset classes. In addition, prices across unrelated commodity groups have increasingly moved together during periods when investors hold a relatively higher share of commodities in their portfolios. The negative correlation between commodity prices and the price of other assets and the co-movement of prices across commodities serve to confute the notion of the invisible hand. Not only is the market failing to price commodities according to supply and demand conditions, price signals appearing from international commodity exchanges can have perverse effects on the allocative decisions of actors operating in the physical commodity industries.

The abandonment of multilateral price controls, as well as liberalization of commodity marketing systems in developing countries, have increasingly bound together commodity prices on the ground with prices that arise on futures markets. Since futures markets have become increasingly distorted by speculative activities, the generated noise gives rise to opportunities and challenges for commodity market actors. The largest and most financially adept actors stand to gain from opportunities for speculation alongside their hedging activities on international commodity exchanges, while the poorer, less organized market actors, at the production end of the chain, face greater challenges in an environment of increased price volatility.

Using the examples of the New York Coffee Exchange and coffee chains within the Tanzanian and Ugandan coffee systems, this paper argues that increases in speculative activities, by both physical commodity trading (PCT) and non-physical commodity trading (NCPT) actors on derivatives markets, have led to heightened volatility in derivatives prices. Furthermore, short-term fluctuations in derivatives prices are increasingly transmitted to physical markets owing to the increase in participation of PCT actors on derivatives markets for hedging purposes, and the resulting importance of derivatives prices in determining prices on physical markets. Changes in the price risk environment along the commodity chain, as well as heterogeneous access to hedging instruments by physical market actors, has altered the structure of international commodity markets where the market at the international trader level has become increasingly concentrated amongst large diversified commodity trading companies that are deriving increasing incomes along new financial avenues. The transmission of price risk, contingent on the PRM-strategy adopted by downstream actors, has also altered the social relations in the coffee industry and consequently the processes of accumulation. These have resulted in a greater divergence in incomes earned by chain actors at opposite ends of the chain, favoring international actors and causing downward pressures on real accumulation at the producer level.

The remainder of the paper is organized as follows: section 2 discusses existing literature on financialization, what it means for capitalism, and how it is changing social relations; section 3 sketches out the structure of the international coffee supply system and examines the key social relations along individual coffee supply chains, as well as relations between actors operating on the physical supply chain, with financial investors that are not directly tied to the coffee industry; section 4 presents the heart of the conceptual argument and discusses how structural changes at different levels of the coffee industry can affect trader behavior, price outcomes, price transmission along coffee chains, and the income of different actors; section 5 presents some

empirical support for the argument articulated in section 4 from case studies of coffee chains in Uganda and Tanzania; section 6 concludes with a discussion of policy of private price risk management in the context of economic development in commodity exporting low-income countries.

## **2. Financialization of Commodity Markets**

The rise in importance of finance in the global economy since the 1970s has been well documented, notably by Helleiner in his account of the “re-emergence of finance in the global economy.” One explanation given is that this is part of the cycles inherent in capitalist accumulation. More recently, a new strand of literature has emerged around the notion of financialization variously understood, seeking to characterize contemporary capitalism in terms of a historical change in the nature of accumulation in the world economy towards one that has become increasingly finance-led.

Proponents of the cyclical view of the re-emergence of finance have used a quantitative measure of financial flows relative to the size of global industry. Those concerned with the uniqueness of contemporary capitalism, as a new and unprecedented phase of global capitalism, have focused on the character of financial expansion in penetrating multiple sectors of the economy that had previously been left relatively untouched by financial activities. In other words, focus is upon both the size of financial rents derived in the economy and on new and far-reaching opportunities for the extraction of such rents by different types of actors and activities. Thus Epstein describes financialization in its broadest sense as “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies.” Other, more operational, definitions of financialization include: taking financialization to entail “the Rise of the Financial or Portfolio Conception of the NFC (Non-Financial Corporations) in Financial Markets”; “the increasing activity of non-financial business on financial markets”; and “the rise of incomes from financial investment.” Based upon these definitions, it is not difficult to identify aspects of commodity markets that have become financialized. First, there has been an increased portfolio investment in commodities as an asset class. Second, physical commodity traders have increased their volume of derivatives trading for hedging as well as speculative purposes.

A debate exists in the literature on whether the recent rise of finance in the global economy means a new era of the rentier or a new era of finance capital. Post-Keynesian scholars see the process of financialization as driven by a new and far reaching rentierism that, in depriving the productive capitalist of funds, causes a slow-down of accumulation across the economy. In contrast, other scholars view financialization as the outcome of a conflict between fictitious and industrial accumulation, with the former winning out over the latter. For Blackburn, “the use of derivatives in contemporary financialisation aims at short-term gains that short-circuit flows of production and trade, garnering an immediate profit at the expense of what might have been long-term social surplus” (Blackburn 2006: 67). Leyshon and Thrift (2007) examine what they refer to as “new” forms of accumulation in the context of the current financial structure. They

explain the process of these new forms of accumulation by the production and aggregation of financial assets in what they call the process of “hyper-capitalization.”<sup>3</sup>

In his detailed assessment of the two views described above, Lapavitsas argues against both. First, he claims that “the ascendancy of contemporary rentiers cannot be dealt with by counter-posing idle rentier to functioning capitalist.” Second, drawing from Hilferding’s theory of financial capital, Lapavitsas argues that financialization does not amount to the dominance of financial capital over industrial and commercial capital (Lapavitsas 2008). Contemporary rentiers derive profits, not merely for possessing and lending loanable capital, but because “their ability to command extraordinary income is mediated primarily by their position relative to the financial system.”

The view adopted here conforms to a synthetic approach across these various positions. Finance has become more significant; it has penetrated into ever more markets; it has done so in complex and diverse ways; and it has unevenly expanded the accumulation of fictitious capital at the expense of real accumulation. In this light, the intention here is not so ambitious as to examine how the appropriately named process of financialization has affected all aspects of accumulation along commodity chains. Rather the aim is to highlight shifting patterns of appropriation along chains owing to their integration into the financial system, as well the impact this has had on the social relations within the commodity chains.

### 3. Structure and Relations in the Coffee Industry

I define the international coffee system as the vertical and horizontal structures, relations, and processes that bring about the supply of coffee from production to consumption. More than the structure of the supply system, made up of any number of coffee chains, the coffee system also includes the relationships across chains either through their intersections at particular levels of the vertical supply system, or horizontally in the context of the global and national political and economic structures.<sup>4</sup> The components of the coffee system thus include: the various market actors that are involved in the production, marketing, and processing of physical coffee; the financial intermediaries operating on international commodity exchanges and the institutional and private investors that they serve; and the regulatory environment faced by different actors at different levels of the supply chains as well as the regulatory environment of the international exchanges.

#### 3.1 *The Physical Supply System for Coffee*

Of all agricultural primary commodity markets, the international production, marketing, and processing system for green coffee lends itself particularly well in terms of studying

3. According to Leyshon and Thrift this new form of accumulation was enabled by the rise of “securitization” which first began to reshape the financial system in the 1980s and 1990s. Against a background of a securitized financial system, the first half of the 2000s has seen a shift in attention to “hedge funds” and more elaborate forms of financial instruments. These processes dramatically expanded the scope and extent of this financialized or fictitious accumulation.

4. There has been a tendency for various commodity chain and value chain approaches to neglect the relationships between commodity chains and their wider economic context as well as inter-chain relationships. In failing to consider the role of finance and financial markets, first of all, in shaping the structure and functioning of physical chains and second as a bridge and coordinating mechanism across chains, chain analyses have neglected to consider the role played by powerful agents (from within as well as outside the chain) in seeking out profits from their participation on commodity derivatives markets.



changes in the structure of the market along the supply chain. The primary commodity, green coffee, ends up at the consumption stage as a beverage in the main, taking relatively few forms compared with, for example, cotton, sugar, or wheat. Coffee is predominantly produced in developing countries, within tropical zones, but consumed in the main in high income countries in Europe and North America. The coffee supply system is thus relatively uncomplicated and it is not difficult to trace the general movement of coffee from production to consumption.<sup>5</sup>

Coffee production is fragmented across a large number of countries across the tropics. With the exception of Brazil, domestic consumption in producing countries is marginal. Coffee production and marketing systems vary considerably between producers. The major share of world coffee is produced by smallholders, although sizeable estate sectors exist in a number of coffee producing countries, particularly in Latin America. So as well as being geographically fragmented across the world, coffee production tends also to be fragmented within individual producing countries. Similarly, the marketing systems differ from country to country, with varying degrees of state intervention or centralized coordination of distribution.

Post export, the international coffee system becomes much more concentrated. Prior to the 1970s, the size structure of the international coffee trading sector consisted of a larger number of small and medium sized coffee-only trading companies, together with a few larger diversified commodity trading companies. The trend has been towards the concentration of a few large coffee traders, many of which have merged with other commodity traders to become very large multinational commodity trading companies.<sup>6</sup> In 1998, the two largest coffee traders (Neumann Kaffee Gruppe (NKG) and Volcafé) controlled 29 percent of total market share, and the top six companies 50 percent. In 2006, Volcafé (now part of ED&F Man) and the NKG have maintained their dominant positions in the market, and control over 30 percent of world trade in green coffee. Concentration of the top 5 companies has also increased since 1998, and now accounts for a market share of over 55 percent. Increased concentration in the commodities trading industry was initially driven by efficiency gains from improvements in technology and communications that resulted in the erosion of trade margins. To survive in this new environment, trading companies increased the volumes as well as the diversity of commodities that they traded.

The final processing stage of coffee before coffee is in its consumption form, that is roasting and blending, is also dominated by a small number of coffee roasting companies internationally. Table 1 shows the market shares of the top 5 coffee roasting and/or manufacturing companies, which together made up just below 50 percent of the world market.

Industrial relations across the coffee supply system have shifted over the last century from a situation where producing countries held relatively strong bargaining positions vis-à-vis their international trader counterparts. Producer countries held the position of key actors between 1906-89, first during the Brazilian monopoly period (1906-37), then during

5. I am concerned with the bulk of coffee trade and refer here to commodity grades of coffee specified on the international exchanges. The processes of price formation in specialty coffee markets are quite different. Specialty coffee is often compared with the market for fine wines in the industry.

6. Volcafé, the leading coffee export company in the late 1990s, was purchased by the diversified commodity trading company ED&F Man. Esteve, currently the third largest coffee trader in the world, was purchased by Cargill to form ECOM in 2000.

**Table 1**  
Market Shares of the 5 Top Coffee Roasting and/or Manufacturing Groups in 2006

coffee roaster/ manufacturer	millions of 60 kg bags traded	estimated share of the world market	cumulative share of world market
Nestle	12.8	14.63%	14.63%
Kraft	11.8	13.49%	28.12%
Sara Lee	8	9.14%	37.26%
Folger	4.8	5.49%	42.75%
Tchibo	3.1	3.54%	46.29%

Source: ED&F Man Coffee Division, 2007 and ICO, 2006

the fragmentation of the world market (1930-62), and finally during the International Coffee Agreement (ICoA) regime (1962-89). The collapse of the International Coffee Agreement marked a turning point in terms of the industrial relations prevailing in the international coffee supply system.<sup>7</sup> Falling prices and increased price volatility that ensued in the 1990s, following the collapse of the ICoAs, eroded the margins for international trading companies. This drove the restructuring of the coffee supply system at the international trading level towards increasing concentration. At the same time, the dismantling of centralized marketing systems in producing countries meant increasingly fragmented exporters and local traders. The increasing size and power of international traders as marketing units, compared with the destruction of a producer country as a marketing unit, meant a reversal of the relative bargaining position between international traders and producer country actors.

The industry is even more concentrated at the roaster level than at the international trader level. There is little vertical integration between international traders and roasters, and the relative bargaining position between the two depend upon prevailing coffee prices. During periods of oversupply, the relative power of roasters over international traders is at its strongest. Increased flexibility in blending, market concentration, and the implementation of supplier-managed inventory systems has increased the influence of roasters over international traders.

### 3.2 International Coffee Exchanges

The process of financialization in coffee chains begins on the international coffee exchanges. The trade of futures and other derivatives contracts for coffee are concentrated

7. In the late 1980s, the International Coffee Agreement (ICoA) became less tenable, first owing to the continued geographical fragmentation of production that led to free-riding by non-member countries who were gaining in terms of export share. Second, demand conditions in consuming countries shifted from a preference for soluble coffees that were heavy in robustas, towards a preference for ground coffee with high arabica content. In the context of rigid supply structures under ICoAs, roasters in consuming member countries feared that competitors could gain access to cheaper coffee from non-member countries. This undermined their cooperation in the ICoA system. In addition, the landscape of Cold War politics that had encouraged the United States to maintain a quota system with Brazil over the ICoA period had turned when it no longer perceived the left in Brazil as a real threat (Daviron and Ponte 2006).



on two international exchanges: the New York Exchange for arabica coffee and the London Exchange for robustas.<sup>8</sup>

While a very small proportion of international coffee trade is delivered onto these two international exchanges, the largest of the international coffee trading companies rely upon the exchanges in terms of hedging. International coffee traders routinely hedge all, or at least a majority, of their trade, relying upon price-to-be-fixed contracts where the delivery date and volume are determined but price is contingent on the prevailing futures price on the day at which price is fixed (at some point in time between writing the contract and the agreed delivery date). In this way the New York and London coffee futures exchanges have become central to the process of price determination for the world prices of arabica and robusta coffee respectively.

Since their initial development as an exchange traded risk management instrument for physical market traders, futures and many other derivatives instruments have subsequently been developed for a wide range of agricultural and non-agricultural commodities and financial assets. These are traded on derivatives exchanges across the world.<sup>9</sup>

Over time the composition of these exchanges, according to trader type, has also varied. The participants in any one commodities exchange include physical market traders who engage in futures trading for hedging purposes and speculators (both physical and non-physical traders) who take a position on the direction of future movements on the price of the underlying asset.

Whilst a proportion of derivatives trading has remained for the purposes of hedging by physical market traders, the share of derivatives trading taken up by financial investors has increased throughout the period after the end of the Bretton Woods system. Since 2000, there has been a further explosion in trading activities on commodities exchanges that was initially triggered by the dot-com crash which saw a shift of funds from equities to commodities.<sup>10</sup> The value of outstanding OTC commodity derivatives in June 2007 was over 7.5 trillion U.S. dollars, compared with 0.77 trillion in 2002 and 0.44 trillion in 1998. The growth in commodities has been sustained as new investors enter the markets; these include various institutional investors such as hedge funds and to a lesser extent pension funds.<sup>11</sup> Unlike hedge funds, pension funds have relatively long investment periods, 30 years for example, and can help sustain the level of investment in these markets over time.

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8. The New York Board of Trade (NYBOT) became ICE in 2008. Robusta coffee futures are traded on the Euronext LIFFE market. Coffee futures for robustas are also traded in India on the National Multi-Commodity Exchange of India Ltd. (NMCE), and both robustas and arabicas are traded on the Tokyo Grain Exchange in Japan. The volume of trades in these other exchanges is very small compared with New York and London, which remain the most important exchanges in terms of price discovery in the physical markets for arabicas and robustas respectively.

9. Currently, the major futures exchanges are the CBOT, the Chicago Mercantile Exchange, the New York Mercantile Exchange, the New York Board of Trade, the International Petroleum Exchange, the London Metal Exchange, and Le Marché à Terme International de France.

10. Commodities represent an attractive asset class for investors; commodity prices move in line with inflation, so commodities act as an inflation hedge. More importantly, commodity prices display a negative correlation with the price of other financial instruments such as bonds and equities and therefore constitute a good asset class in terms of diversifying portfolios and risk reduction. It is therefore not surprising that commodity markets see increasing investment during periods of economic downturns.

11. In their 2007 FSA study, Doyle, Hill, and Jack found that 75-80 percent of funds invested in the Goldman Sachs Commodity Index (GSCI) are from pension funds.

There has also been a growth in investment on commodity markets that has resulted from the lowering of entry barriers for smaller hedge funds with the transition from open outcry to electronic trading platforms that have taken place in many of the major commodities exchanges.

With increasing financial activities in commodity markets, already large compared with the size of physical production, the changing composition of exchange traders has affected market characteristics such as heightened price volatility as well as a dislocation between exchange prices and those warranted by supply and demand realities. More recently, Wray has argued that index speculators have helped to fuel the apparently unprecedented broad-based commodities price boom that finally burst in July 2008 (Wray 2008).

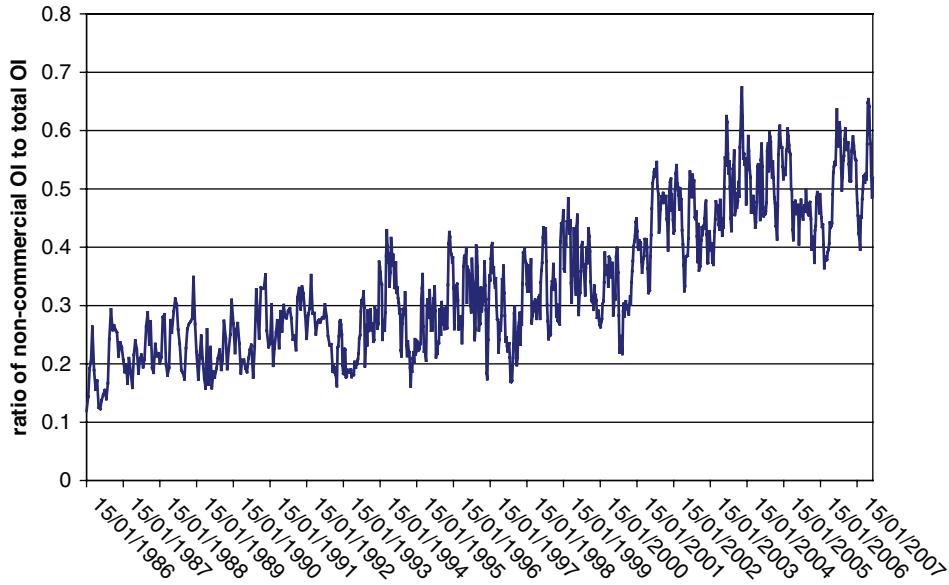
Taking the specific example of arabica coffee, it is possible to measure the extent of speculation in commodity markets and see how this evolves over time. The New York Board of Trade (NYBOT) divides all trading members into two categories: hedgers and speculators. Hedgers are exchange members that are also engaged in physical commodity trade; these will include the large international commodity trading houses. All other exchange trading members are classified as speculators under the category of non-commercial traders. This distinction is, however, not clear cut. It is not straightforward to determine what constitutes speculative behavior since all derivatives trading, including for price risk management, will contain elements of speculation which are only apparent *ex post*. The ratio of non-commercial open interest to total open interest<sup>12</sup> can thus serve as a measure of speculative activities, but one which will tend to underestimate its extent. Figure 1 illustrates the evolution of this measure of speculation on coffee futures trading on the New York Exchange from 1986 until 2007. For coffee futures, the ratio is volatile, and non-commercial trading activities have increased from between 10 and 30 percent of total open interest on the New York exchange in the 1980s to a ratio that varies between 40 and 70 percent in the 2000s.

Another, but similarly flawed, measure of speculative (or non-hedging related) activities on the New York coffee exchange is to compare the volume of green coffee that is equivalent to the volume of futures contracts traded each month with volume exported in the corresponding month. Figure 2 shows the evolution of the ratio between the monthly volume equivalent of coffee futures contracts traded on the New York exchange and the monthly volume of arabica exports from ICO member countries.<sup>13</sup> During the 1970s, the volume equivalent of futures contracts traded on the New York exchange fluctuated between 0 and 2,000 times the volume of physical trade as measured by the monthly exports. After 2002, this figure fluctuated between 8,000 and 18,000 times, marking dramatic increases in non-hedging related futures trading in the interim period.

While increased volatility in coffee prices did not drive the initial concentration process of the industry at the international trader level, the increasing need to engage in futures trading has reinforced the concentration of international traders. During the last

12. Open interest refers to the total number of live contracts, that is the total number of futures contracts that are not closed or delivered on a particular day.

13. The International Coffee Organisation (ICO) has 45 producer member countries which make up the largest share of world coffee exports.



**Figure 1.**

Ratio of Non-commercial Open Interest to Total Open Interest in Coffee C Contracts on the New York Coffee Exchange

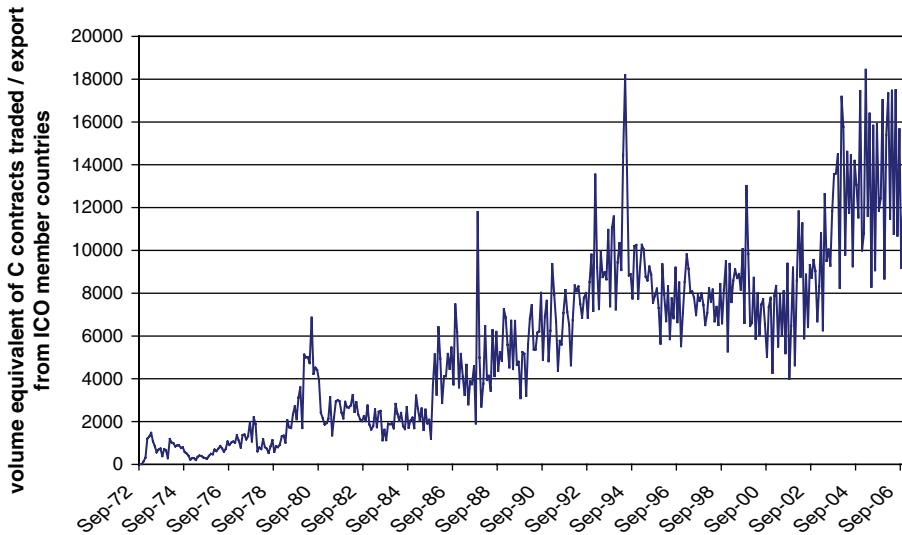
Source: CFTC 2008

two decades mid-sized traders with unhedged positions suffered major losses. They also found themselves too small to compete with larger ones. In this way, mid-sized trading companies either went bankrupt, merged with others, or were taken over by the largest trading companies.

Increased participation of financial investors in international commodity exchanges has further altered the behavior of international traders operating on these exchanges. Where traditionally the extent to which physical traders bought and sold futures contracts was in the main determined by their positions in physicals, coffee traders are increasingly building market expectations into their hedging decisions. This speculative element of futures trading by commodity trading companies has been increasingly built into the corporate strategies of the large international trading companies. Increasingly, physical traders take into account the influence on prices of financial investors on the exchanges. Coffee trading at the international level has become a financialized business. "There are some very savvy physical traders that know exactly what the speculators do, how they think and what they will do next and they play the game. They make it part of their own game."<sup>14</sup>

More and more commodity trading companies resemble financial holding companies with a spectrum of financial services and financial investments. The proportion of company revenues coming from such financial investments has been growing with respect to revenues derived directly from the trading of the physical commodity. Commodity trading

14. Quote taken from a telephone interview with the risk manager of a large commodities trading house conducted by the author in 2007.



**Figure 2.**

Ratio of the Volume Equivalent of Coffee C Contracts Traded to the Total Volume of Arabica Coffee Exported from Member Countries of the International Coffee Organisation

Source: CFTC 2008; ICO 2008

companies have increasingly placed “risk management” at the center of their core competencies, referring to in-house research departments and futures brokerages that cater to traders of physical commodities as well as financial investors looking to diversify their portfolios. The shift towards greater financial activity of commodity trade houses has reinforced the level of industrial concentration.<sup>15</sup>

By shifting their corporate strategies so that “risk management” is at the center of the firms’ core capabilities, large international traders have been able to profit from heightened price volatility and price movements that are affected by the practices of financial investors on commodity markets. International coffee trading companies exercise their power over producer country actors by determining the type of contract used in the exchange of green coffee. The shift from fixed-price-forward contracts to price-to-be-fixed contracts, first, has increased the importance played by futures prices originating on the New York and London coffee exchanges in the determination of prices in the physical coffee system; and second, created potentially greater transmission of short-term price movements from the international exchanges along individual coffee chains than previously. The extent to which volatile prices are transmitted upstream along coffee chains, and the consequences of this on accumulation, will depend upon: i) the structure of the producer country production and marketing system; ii) the types of price risk management adopted by downstream chain actors; and iii) the type of risk management strategy adopted by actors in the chain segment in question.

15. Large lot sizes on commodity futures exchanges and the potential losses associated with adverse changes in the futures price prevent smaller trading companies from engaging in these types of financial activities.

#### 4. Price Volatility and Price Risk Management along Coffee Chains

There are a number of different strategies that coffee chain actors can adopt in order to manage the risk associated with international price movements. PRM strategies can be divided into those that manage exposure to risk, i.e. through the use of hedging instruments, and those that reduce the exposure to price fluctuations, for example fixed-price-forward contracts, back-to-back selling, entering niche markets, and diversification. Which of these strategies are adopted by chain actors has clear implications for upstream chain actors in terms of their exposure to international price movements (see Table 2). This in turn affects the types of PRM strategies adopted by upstream actors. The potential for chain actors to profit from new financial avenues of accumulation depends upon their exposure to price volatilities and their ability to engage in hedging strategies. In contrast to the belief of proponents of the universal use of hedging instruments by chain actors to manage price risks, the ability of individual chain actors to engage in various risk management strategies will heavily depend upon the organization of the market at a particular segment of the chain, and access to finance, information, and brokerage services.

Uneven access to futures markets and other PRM strategies has clear implications on the character of accumulation that takes place along coffee chains. Whilst large international traders have the capacity to derive greater shares of their incomes from financial practices, smaller traders and producer country actors face the challenge of increased price volatility. Where actors can stabilize incomes by hedging, accumulation processes continue along traditional lines with the reinvestment of profit into productive activities. Where incomes are stabilized by minimizing exposure to price movements, there is no possibility to derive financial rents via international exchanges. In the absence of cooperative institutional structures, chain actors that are unable to hedge with futures contracts will tend to be divided into middlemen who take on the risk of price movements at a price and producers that sacrifice price levels for stable prices. This has implications on accumulation at the farm level, which could potentially undermine the sustainability of the coffee system.

Whilst price volatility poses a challenge for physical market actors when it translates into unstable incomes, volatile prices also offer opportunities for the extraction of financial rents by certain actors. There is thus a tradeoff between reduction in a chain actor's exposure to price movements and their ability to extract rents. While futures contracts can be used purely for hedging purposes, the price risk management mechanism does not rely upon limiting exposure to price movements on the international exchanges.<sup>16</sup> There is therefore the possibility for speculation, but whether or not a physical trader will engage in this will depend upon the size of the firm, since speculative activities can lead to losses.

#### 5. Price Risk Management and Accumulation along Coffee Chains in Tanzania and Uganda

Prior to the liberalization of their coffee markets, Tanzania and Uganda both operated centralized marketing systems. All coffee exports went through a single channel: the

16. Routine hedging "assumes no need for forming judgement on price prospects." R. W. Gray, 1960. The characteristic bias in some thin futures markets. *Food Research Institute Studies* 1.

**Table 2**  
Types of Price Risk Management Strategies Adopted by Coffee Chain Actors, and Their Consequences on Exposure and Accumulation along Financial Avenues

<i>Price risk management strategy</i>	<i>Mechanism of price risk management</i>	<i>Implications for upstream chain actors' exposure to international price fluctuations</i>	<i>Implications on the accumulation process</i>
Price-to-be-fixed contracts together with hedging on derivatives markets	Based on full exposure to price fluctuations and the offsetting of the risk through the purchase or sale of futures or options.	Price fluctuations are passed upstream along the chain.	Possibility of earning financial rents associated with activities on derivatives markets.
Forward contracts	Transaction price set ahead of delivery date to reduce exposure to international price fluctuations.	The transmission of price volatility upstream along the chain is limited by the forward contract.	No possibility of earning financial rents associated with activities on derivatives markets. Accumulation takes place along traditional avenues.
Back-to-back selling	Sell as rapidly as possible after purchasing coffee to limit the time period of the exposure to price fluctuations.	Price fluctuations are passed upstream along the chain.	No possibility of earning financial rents associated with activities on derivatives markets. Small and unstable margins earned along traditional avenues.
Fairtrade, specialty, and niche markets	To market a differentiated product that does not depend as much on price movements on the futures market.	Limits price volatility upstream.	No possibility of earning financial rents associated with activities on derivatives markets. Small but stable margins earned along traditional avenues.
Diversification	To limit the reliance on income derived from any single product that may exhibit volatile prices.	Price fluctuations are passed upstream along the chain.	No possibility of earning financial rents associated with activities on derivatives markets.



Coffee Marketing Board in Uganda, and the state-run coffee auction in Tanzania. Coffee production in both countries is dominated by small-holder production, although there was, and remains, a small estate sector in Tanzania. While in Tanzania all coffee was marketed through the cooperative marketing system, Uganda operated a dual local marketing system with both private and cooperative marketing channels in operation.

The processes of domestic coffee market liberalization, as well as the extent to which the markets were liberalized, differ between the two countries. The coffee market in Uganda was liberalized in 1990/1. The liberalization process was rapid, and Uganda remains the most fully liberalized coffee market in East Africa. The cooperative marketing channel for coffee has virtually disappeared, and the vast majority of coffee is now marketed through private local traders.

The initial period following liberalization saw a growth in the number of coffee export companies registered in Uganda, from 34 in 1992/3 to 117 at its peak in 1994/95. Since 1995 the number of registered export companies has been falling, year on year, and numbered 25 in the 2005/6 marketing season. The export sector is highly concentrated, with the top 5 companies making up over 70 percent of the market share, compared with 52.2 percent in 1996/7. Moreover, the top 5 companies are all subsidiaries of large MNC trading houses compared with just 2 in 1996/7. Local exporters have gradually been displaced from the top 10 exporting firms and the sector in general. In 1996/7, 7 of the top 10 exporters were local, compared with 4 in 1998/99 and just 3 in 2005/6.

Owing to the variations in coffee seasons across the country, export companies are all based in Kampala and rely upon local traders to bring the coffee from farm gate to factory gate. Local traders purchase dry cherry (kiboko) from farmers and mill it into what is known as fair and average quality (FAQ) coffee.<sup>17</sup> Exporters purchase FAQ coffee and process it for export.

The liberalization process in Tanzania began in 1994/5 and has not been as complete as in Uganda. Tanzania has maintained its auction system. The cooperative sector remains relatively strong in the northern coffee growing regions of Kilimanjaro and Kagera. In 2003 there were further changes in the coffee marketing system with the introduction of direct export and the one license law that prevented any single market actor to simultaneously purchase coffee locally and at the auction.

In contrast with the Ugandan coffee system, private exporters were operating in the Tanzanian coffee marketing system prior to liberalization, although the vast majority of green coffee was exported by the cooperative unions. In 1994/5 83 percent of coffee exports were exported by the cooperative union sector. This share fell to 26 percent in 1999/00 with the collapse of a number of CUs, in particular those in the southern coffee regions. In 2006/7, the export share of the three remaining CUs stood at 8.76 percent.

As it is in Uganda, the coffee export sector in Tanzania is highly concentrated, with the levels of concentration having increased steadily since liberalization. In 1994/5 the market share of the top 5 exporters was 59.5 percent; this stood at 63.7 percent in 1999/00 and was 67.7 percent in 2006/7. The number of active export companies in Tanzania has remained relatively stable, fluctuating between 22 and 27 in the period from 1994/5 until

17. FAQ coffee is green coffee that has not been sorted according to the size and shape of the bean and is not ready for export.

2002/3. With the introduction of direct export licenses, the number of registered exporters has increased, although the number of exporters operating in the auction system remains at similar numbers to pre-2003 levels. The dominance of foreign owned MNC exporters in the sector has also increased. In 1994/5, 3 of the top 5 exporters were locally owned compared with 1 in 1999/00. By 2006/7, the top 5 coffee exporters were all subsidiaries of large MNC trading houses.

Under cooperative marketing systems, price risk was managed centrally and shared out amongst producers to allow individual producers to earn a stable income. In Uganda, both cooperatives and private local traders purchased at fixed producer prices and fixed margins (Ponte 2001). International price fluctuations were not transmitted to local actors in the Ugandan coffee marketing system, but managed through the central marketing board.

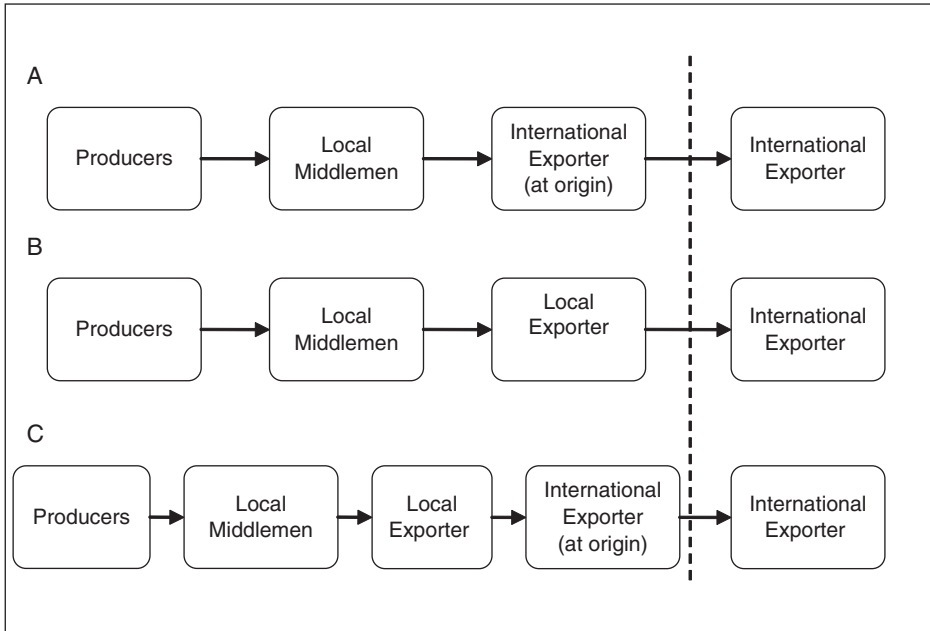
In terms of exposure to international price volatility, prior to 1989 the International Coffee Agreement ensured relatively stable export prices that translated to relatively stable farm-gate prices in both Tanzania and Uganda. In Tanzania, ownership of the coffee remained with individual small-holder farmers and estates, through the cooperatives, up to the point of auction. This meant that farmers carried the risk of price fluctuations in the period between initial marketing and auction. Farmers' incomes were, however, smoothed throughout the selling season since the payment system entailed an initial fixed payment for coffee deposited at the village level primary societies, with second payments of the difference from the auction price following export. In this system, price risk was managed centrally and shared out amongst producers to allow individual producers to earn a stable income. In Uganda, both cooperatives and private local traders purchased at fixed producer prices and fixed margins (Ponte 2001). International price fluctuations were not transmitted to local actors in the Ugandan coffee marketing system, but managed through the central marketing board.

Since the mid-1990s, price risk, risk management, and their consequences have differed between Tanzania and Uganda because of the differences in the liberalization processes of domestic coffee markets. Within each coffee producing country, the experiences of different coffee chain actors depend upon the structure of the marketing chain with which they are engaged as well as their position along it.

Since liberalization, there has been a greater transmission of international coffee prices to local prices at each segment of the chain. However, the transmission of long-run and short-run price variations have not been uniformly transmitted along all segments of the marketing system. Taking the private marketing system as an example, we look at the relationship between price volatility, PRM strategies, and the processes of accumulation along the three related, private marketing chains in Uganda (Figure 3).<sup>18</sup>

Both local and international export companies face the risk associated with world price volatility of coffee coming from the international exchanges in New York and London. The PRM strategies adopted by the two types of exporters differ considerably. International exporters tend to sell the majority of their coffee on a price-to-be-fixed basis. All coffee transactions are hedged on NYBOT or LIFFE, through their principle offices in Europe,

18. Chains A and B depict coffee chains in which the exporter is the subsidiary of an international trading company, or a local exporter respectively. In chain C, local exporting firms are acting as middlemen rather than exporters.



**Figure 3.**  
Selected Private Coffee Marketing Chains in Uganda

and Singapore in the case of Olam.<sup>19</sup> Orders for the purchase of futures and options come from the Kampala office, and the timing of when to place an order can depend upon the exporter taking a position on how they expect prices in New York or London to evolve.

The decision to hedge as a PRM strategy, therefore, also contains a speculative element. By taking a position on the market, accumulation along new financial avenues is possible for this group of market actors. It might be expected that short-term price movements are transmitted upstream from international exporters. This is however not the case in practice. International exporters will themselves cushion the short-term volatility to some extent to make the procurement of coffee practical in the Ugandan context. They will maintain purchasing prices throughout a day, and for longer periods if world price fluctuations are not too severe.

By contrast local exporters do not use futures and options in their PRM strategies owing to relatively small export volumes at any one time compared with the lot sizes in New York and London and their limited access to the necessary finance to engage in derivatives trading activities.<sup>20</sup> Local exporters use a combination of PRM strategies that limit their exposure to international price fluctuations, namely by utilizing forward contracts for a portion of expected sales and back-to-back selling. By limiting their exposure, local exporters also limit the potential to earn rents derived from changes in international prices. The use of forward contracts for export acts as a price buffer for actors upstream of the chain, mediating their exposure to international price fluctuations.

19. Olam is a diversified commodity trading company with trading divisions in Uganda and registered in Singapore.

20. Local traders do not engage in hedging on derivatives markets in spite of their understanding of the principles of these hedging instruments.

Local traders are to some extent shielded from very short-term fluctuations in world prices. They are, however, still exposed to inter-day or weekly swings in the purchasing price of exporters in Kampala. Local traders buy and sell coffee on the spot. They have no access to contractual arrangements that can limit their exposure to short-term price movements. Local traders try to ensure large margins that can contain the price volatility. They will purchase kiboko at stable but low prices from producers to ensure a margin.

Short-run price changes are thus not transmitted directly to producers but are manifest in low farm-gate prices. This has implications on the extent to which physical investment is made in production in the context of high and rising world prices for coffee.<sup>21</sup>

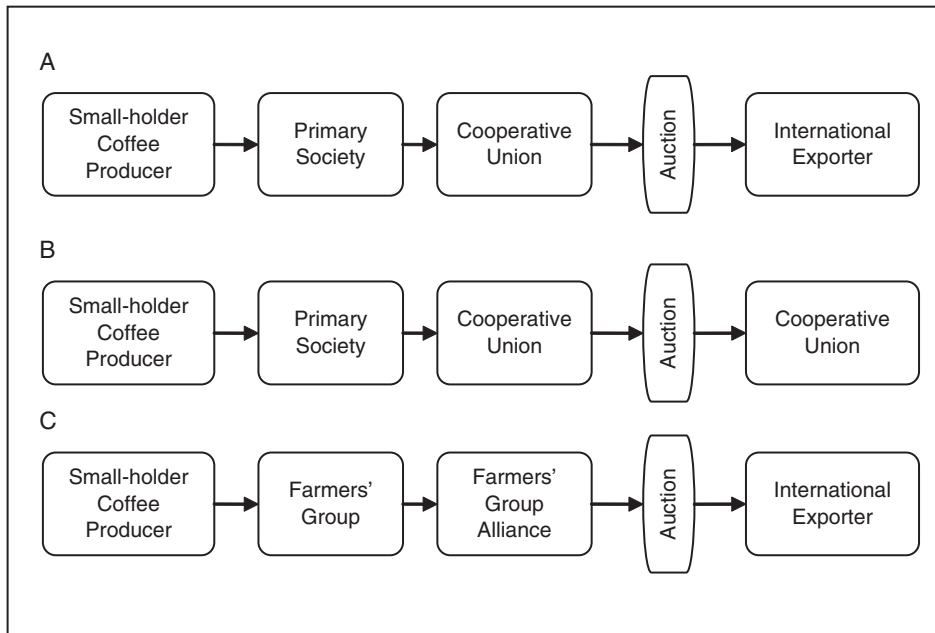
In order to compare differences in relationships between the exposure to price volatility, PRM strategies, and accumulation processes of chain actors in the Tanzanian and Ugandan coffee marketing systems, I take the example of the cooperative marketing channels. Chain A in Figure 4 depicts a traditional cooperative marketing chain with small holder producers organized at the village level into primary societies, which are in turn organized into a regional cooperative union. Decision making is democratic amongst the members at the annual general meeting and information on prices and production is collated at the union level and disseminated to farmers through the primary societies. After liberalization, a number of farmers and groups of farmers, unhappy with the costs and perceived inefficiencies of the cooperative unions, decided to leave the unions in order to earn larger margins by marketing their own coffee. Some of these farmers' groups utilized the marketing structure of the cooperatives and formed farmers' group alliances (chain C).<sup>22</sup>

As in the Ugandan case, exporters in Tanzania are fully exposed to short-term movements in world coffee prices. International traders utilize the standard price-to-be-fixed contracts for sales, and hedge 100 percent of all coffee transactions through their principal offices. Cooperative unions can also act as exporters, purchasing the coffee from the auction for export. None of the three CUs currently operating in the coffee market are using hedging instruments to manage risks associated with world market fluctuations, preferring to secure stable prices at premiums through participation in niche and specialty markets, most notably the fair-trade scheme. The KNCU, Kagera Cooperative Union (KCU), and Kilicafé are all registered as suppliers of fair-trade coffee. As exporters, KNCU and KCU tend to sell on forward contracts and some back-to-back sales in order to limit their exposure to price fluctuations. Kilicafé is currently the only farmers' organization that has used options as a risk management strategy, but only a portion of coffee transactions are hedged in this way.

World coffee prices are transmitted through the auction to local marketing actors, but very short-term movements are mitigated by the fact that the auction takes place once a week during the selling season. While in Uganda green coffee is sold through the private coffee marketing chains, in Tanzania it remains the property of individual farmers until the auction. Farmers therefore bear the entirety of the risk associated with price variability

21. The crisis of coffee production in Uganda has prompted the efforts of the Ugandan Coffee Development Authority (UCDA), NGOs such as NUCAFE, and a number of international exporters to promote production through the organization of farmers and improved farming practices; for example, the NKG small holder scheme and EDE consulting.

22. Examples of relatively successful farmers' group alliances are the G32 in the Kilimanjaro region made up of a collection of 32 newly formed farmers' groups and former primary societies of the Kilimanjaro Native Cooperative Union (KNCU), and Kilicafé. Both the KNCU and the G32 have accounts and overdraft facilities at the Kilimanjaro Cooperative Bank, where a warehouse receipt system is in operation.



**Figure 4.**  
Cooperative Coffee Marketing Chains in Tanzania

transmitted through the auction. The payment system of the pre-liberalization cooperative system remains in these three marketing chains and individual farmers' incomes are smoothed with a fixed initial payment on deposit of parchment coffee followed by the differences earned by coffee from each primary society.<sup>23</sup> Weekly price fluctuations are therefore shared out amongst individuals belonging to a primary society and farmers. There is therefore more real accumulation taking place along the cooperative marketing chains in the Kilimanjaro region of Tanzania compared with Uganda. Despite the efforts of the World Bank Commodity Risk Management Group, together with the CRDB, bank of Tanzania, to promote the use of hedging instruments by cooperatives and farmers groups,<sup>24</sup> with the exception of Kilicafé no farmers' groups or cooperative unions are using hedging instruments.<sup>25</sup> Furthermore, the instruments offered by the CRDB bank do not provide the potential for Tanzanian market actors to derive income from upswings in prices, but merely protect them from downswings.

## 6. Conclusions

This paper has examined the restructuring of the coffee industry that has taken place since the collapse of the International Coffee Agreements in 1989 and the liberalization of

23. Parchment refers to coffee that has been pulped to remove the fruit but with the husk still intact.

24. The World Bank Commodity Risk Management Group recently funded a project conducted through the CRDB bank to make available hedging instruments, namely New York futures contracts, that were brokered by a third party in the United States via the CRDB bank. These hedging instruments were pitched to coffee market actors as "kinga ya bei," or price insurance.

25. Kilicafé purchases options through a U.S. brokerage rather than through the CRDB bank.

producing country marketing systems, together with the rapid increase in financial investment on international commodity exchanges.

The policy of private price risk management strategies for the stabilization of individual incomes is inherently biased in favor of the largest downstream chain actors and against the poorest and least organized participants towards the production end of the chain. The move from cooperative risk management and multilateral price stabilization schemes towards private PRM strategies has fostered the process of financialization in coffee chains. This process of financialization both consolidated the dominant market positions of the largest coffee trading companies and placed pressure on, and sustained the fragmentation of, production within origin countries where the income generated by individual farmers from coffee production may be insufficient for re-investment.

Large international coffee trading companies have refocused their investment strategies away from productive investment towards speculative activities in commodity derivatives by making so called "risk management" the core of their business efforts. The process of the largest trading firms increasing their share of profits derived from financial activities reinforces a highly concentrated market structure at the international level. As opposed to the traditional type of competition amongst physical traders that tend to drive prices down with increasing market participants, increased participation on derivatives markets increases the bidding. The uneven transmission of volatile prices owing to the uneven access to hedging instruments in the context of heterogeneous market actors has created opportunities for a few to derive income along new financial avenues of appropriation as well as new challenges for producing country market actors. This process, if unhindered, is likely to reproduce and exacerbate international inequalities along coffee chains.

There is a need to constrain the process of financialization in coffee markets that may be achieved by separating the process of price determination of the physical commodity from the price of the futures contract that is formed on international exchanges. Within a financialized system, the notion of supply and demand efficiently allocating resources through the price system does not apply. Elsewhere, Newman has shown that the price of the coffee "C" futures contract can be driven by institutional investors such that price movements are largely independent of supply and demand changes (Newman 2008). There is a need to constrain speculation on commodity exchanges along the lines that are currently being debated in the U.S. Congress. Examples of proposed interventions along these lines include the Levin-Feinstein "Over-the-Counter Speculation Act" that would give the CFTC authority to direct a trader to reduce its position in the over-the-counter market to prevent price manipulation and excessive speculation in these markets, and the "Stop Excessive Energy Speculation Act" proposed by Lieberman (Levin 2008; Lieberman 2008). More than this, there is a need to recognize differences in the types of financial actors on commodity futures exchanges. While traditional forms of speculation are seen to be beneficial through their provision of liquidity, speculation based upon portfolio diversification has been seen to drive commodity bubbles and subsequent collapses in the market. The Commodity Futures Trading Commission (CFTC) in the United States therefore has an important role to play in terms of limiting the effects of speculation on commodity prices by bringing more of the market under regulation. One way might be to establish and enforce limits on the positions held by trading members, in particular money managers who invest on commodity markets for portfolio diversification purposes.



The promotion of private price risk management instruments on commodity markets by the World Bank can only be seen as an anti-development policy. If the goal is to promote stable incomes at a level that will allow reinvestment and growth in the industry, the failure of private PRM strategies may provide grounds for revisiting price controls and compensatory finance schemes. A return to the ICAs (international coffee agreements) may not be possible since many of the political and economic reasons for their collapse remain.<sup>26</sup> There are, however, aspects of the scheme that can be emulated by large individual producing countries or coalitions of coffee producing countries. In particular, the bargaining position of local exporters might be enhanced by the holding of public stocks. When prices offered by international exporters are considered too low, the state can act as a competitor in the local green coffee market, and release stock when prices are high. A similar system operates in Vietnam, where the state maintains coffee stocks and the export sector is dominated by state-owned enterprises.

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26. See footnote 2.

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