Alessandro Bonanno . La financiarización de la agricultura y alimentos en el contexto de la restructuración neoliberal: rasgos principales y contradicciones fundamentales. Estudios Rurales, Vol 5, N° 10, ISSN 2250-4001, CEAR-UNQ, Buenos Aires, junio de 2016 pp 1-17

Estudios Rurales
Publicación del Centro de Estudios de la Argentina Rural-UNQ

The Financialization of Agriculture and Food in the Context of the Neoliberal Restructuring: Primary Characteristics and Basic Contradictions

Abstract

This article probes the issue of the financializationof agriculture and food. Financialization refers to the rapid growth of the financial sector and the concomitant securitization of economic activities. Securitization refers to the process that reduces all existing value into financial instruments.By illustrating the basic components of the financialization of agri-food, this article proposes the thesis that change is largely directed by actors that operate within the financial sector. It concludes thatsolutions to current problems and accurate analyses of the agri-food sector require attention to its financial dimension. This conclusion is supported by a review of salient literature and an analysis of the evolution and contradictions of the financializationof agri-food.

La Financiarización de la Agricultura y Alimentos en el Contexto de la Restructuración Neoliberal: Rasgos Principales y Contradicciones Fundamentales

Resumen

Este artículo examina las dinámicas y características de del macro-proceso de financiarización de la agricultura y los alimentos. Hace referencia al rápido crecimiento del sector financiero y a la concomitante tendencia a la titulización de las actividades económicas, es decir al proceso que reduce todo el valor de la economía a instrumentos financieros. Una vez señalados los componentes básicos de la financiarización de la agroalimentación, este artículo propone la hipótesis de que la evolución del sector está dirigida en gran medida por un grupo de actores que operan dentro del sector financiero. El artículo concluye que las soluciones a los problemas actuales y el análisis del sector agroalimentario requieren de la atención a su dimensión financiera. Se llega a esta conclusión a través de una revisión de la literatura y un análisis de la evolución y contradicciones del fenómeno de la financiarización agroalimentaria.

Introduction

Financialization has emerged as one of the primary themes of recent agriculture and food literature. Paralleling debates in other substantive areas of sociology and other social sciences, the financialization of agriculture and food is viewed as one of the most relevant phenomena of the era of global neoliberalism (Burch and Lawrence 2013; 2009; Fairbairn 2015; 2014; Russi 2013).Its astronomical growth, impact on agri-food and alteration of socio-economic patterns are among the primary topics discusses in relevant debates. As agriculture and food become

increasingly financialized, attributing change to economic fundamentals (supply and demand of agri-food, geopolitical and natural events) and to the behavior of actors operating in the real economy[1]is transformed into only a partial explanation of current trends. By illustrating the basic components of the financialization of agri-food, this article proposes the thesis that change is directed by a group of actors that operate within but also outside the real economy and, therefore, solutions to current problemsin agri-food require attention to this novel situation.

The above point is developed through an updatedanalysis of salient aspects of financializationalong with a review of pertinent literature. Additionally, illustrations of the contradictions of the financialization of agri-food and the implications that they entail for the sector are presented. The article opens with an analysis of the basic characteristics of financialization. In this first section, it is argued that the phenomenon of financialization can be defined through two related dimensions. The first consists of the rapid growth of the sector that took place since the 1980s. The second refers to the securitization of economic activities. Securitization refers to the process that reduces all value in the economy into financial instruments. This opening section is followed by the review of relevant theories of financialization. Early Twentieth Century discussions of financializationillustrated the development of the collusion between banks, large corporations and nation-states for the control of regions of socio-economic influence. This type of *financial capital* ended during the first portion of the Twentieth Century and was replaced by a system based on the creation of value through exchanges in financial markets. The *political theory* explains this process in terms of the introduction of political measures that deregulated the financial sector. According to the *post-Keynesian theory*, the political theory downplays the role of financial capitalists in the creation of financialization. For this latter group of theorists, financializationis the result of deliberate actions of capitalists and the neoliberal reforms that they promote. The theory of *underaccumulation* explainsfinancialization in terms of the overall process of the evolution of capitalism. The expansion of capitalism, they contend, generates economic stagnation, crises of aggregate demand and of declining rates of profit. These conditions are addressed through the search for new and more attractive forms of use of capital. Investment in the financial sector represents one of such alternative forms of use of capital. The theory of the *cyclical nature of financialization*, conversely, argues that throughout history there are recurrent cycles that end with the growth of financial capital. This is one of these cycles that will eventually be followed by a crisis of finance. An illustrations of the theory that sees financialization as the *result of the establishment of neoliberal globalization* is finally presented.

The article continues with an analysis of the evolution of financializationof agriculture and food. It illustrates the expansion of the use of financial instruments such as futures and derivatives and the manner in which the deregulation of the financial sector promoted the development of new and more advanced financial instruments. The expanded use of these financial instruments, it is argued, was instrumental in the creation of the conditions that led to the financial crisis of 2007-08. Additionally, they established structural conditions that affected the evolution of agriculture and food prices and engendered commodity crises. The following

[1] The concept of real economy is employed here to define the manufacturing, agriculture and service sectors. These are the sectors that have historically produced all the items that are bought and sold in the market. The financial sector stands in opposition to the real economy for it does not produce new items but it simply generates new value by the circulation of these items. While the financial sector is certainly "real" in its existence and consequences, the concept of real economy is employed in this article to indicate manufacturing, agriculture and services.

section highlights the characteristics and roles of the primary actors of the financialization of agri-food. In particular, the roles of financial firms and global supermarket chains are discussed. In the case of financial firms, their use of agricultural and food products as financial assets is documented along with its socio-economic implications. In the case of global supermarket chains, the concentration of the food retailing sector is highlighted along with the manner in which this concentration has expanded supermarkets'involvement in the financial sector and their control of production.

The next to the last section of the article highlights the primary consequences of financialization. Six items are discussed. It is maintained that first, financialization engenders a subordination of the real economy to financial interests.Second, financialization limits the growth of wages and creates conditions that contribute to the growth of socio-economic inequality. Third, the use of credit to compensate for stagnant wages has created unprecedented levels of indebtedness. Fourth, profit generation has been decoupled from the creation of jobs. The new jobs created are precarious and poorly paid resulting in thefarmization of the labor structure.Fifth, financialization has increased the instability of the economy and promoted the consequent introduction of austerity measures. While austerity measures do not offer a real alternative to the negative consequences of financialization, they worsen the conditions of working and middle classes. Finally,financializationmakesocial relations less transparent for it is difficult to identify the actors that control them. The article concludes by arguing that proposing analysis and the implementation of solutions to existing problems exclusively at real economy level is limiting for it does not consider the relevant impact of financialization.

The Basic Characteristics of Financialization

The phenomenon of financialization refersto two related dimensions. The first consists of the *rapid growth of the sector* and, in particular,its accelerationsince the introduction of neoliberalism in the early 1980s (Epstain 2005; Krippner 2011). In the United States, the largest economy and financial sector in the world, in the 1950, the financial sector covered about threepercent of the gross domestic product or GDP. By 2016, this percentage rose to 6.5. More importantly, the component of the total profit generated by the financial sector increased disproportionally. In the 1950 in the USA the profits generated by the financial sector stood at about 8 percent of the total amount of profits generated in that country. Twenty years later, this proportion increased to about 40 percent, whilebythe 2010s, it stood at about 60 percentof all profits (Tomaskovic-Dovey and Lin 2011). This means that the majority of profits created in the United States come from financial activities. Additionally, it must be noted that this growth is not the result of the decline of profits in other sectors of the economy for the GDP growth in the United States has increased 5 times between 1980 and 2006. It means that profits in the financial sector have grown at a much faster rate than profits in the rest of the economy, a situation that did not occurred before 1980 when profits grew at about the same rate in all sectors. After the financial crisis of 2007-08, in the US and in a number of other countries, legislation was introduced to increase control of the sector. Yet, these measures did not slow down the growth of profits generated from financial activities that continue to constitute the majority of all profits generated in the economy.

Because of the greater expansion of the financial sector, it is currently considered more relevant that the productive sector (manufacturing and agriculture) or the real economy. Some critics are concerned that this characterization of the real economy may provide the wrong idea

that financial activities are not "real" (Krippner 2001). For these critics, the financial sector is highly important and its growth has serious implications for the rest of the economy and society. However, other observers stress that, differing from manufacturing and agriculture, the financial sector does not add value as it does not create actual products. It simply extracts value by circulating existing products (Epstain 2005;Stiglitz 2016). Accordingly, while they agree on the serious implications that the growth of finance has on the overall economy and society, they emphasize the lack of contribution to the overall economy that it generates. As it will be stressed below, this situation refers particularly to the creation of employment, the redistribution of wealth and the stability of the socio-economic system.Additionally, all this literature stresses that the increased importance of financial capital over real capital has created a subordination of the real economy to the financial sector for investments tend to be channeled toward financial markets. Under these conditions, some authors argue about the emerging intra-capital conflict between the productive and financial sectors (Epstain 2005).

The second dimension of the phenomenon of financialization refers to the *securitization* of economic activities. Securitization refers to processes that tend to reduce all value produced into financial instruments. A financial instrument is any tradable asset in financial markets. Accordingly, agricultural products such as soy, corn and wheat but also agricultural assets such as land and machines are increasingly considered as financial instruments to be traded in financial markets rather than products or factors of production. Following the sector deregulation initiated in the 1980s, financial agents operate to produce new financial instruments by combining existing and/or to be created financial assets and marketing these repackaged entities to investors. The expansion of the financial sector is largely due to the ability offinancial actors to sell these newly created financial products to investors.

Securitizationfurther involves a different market logic than the one employed in the real economy (Epstain 2005; Lapavitsas2013). It is characterized by an emphasis on short term results or*shortermism*.This condition implies a focus on the ability to sell as the prices of assets increase. The central idea is that financial operators search for conditions that increase the prices of assets under their control, and when this situation is achieved, they sell. There is no commitment to the assets involved and the people behind their existence. It is simply a matter of exploiting changes in the prices of assets. This logic of shortermism contrasts the real economy's dominant rationality of*longtermism*. In the real economy, one of the primary objectives of producers is to develop a stable clientele that recognizes the value of their products. Additionally, the ability to count on a continuous process of realization of production (the sale of products) is one of the most relevant conditionsfor the prosperity of real economy firms. Accordingly, the long-term growth of production and consumption is viewed as fundamentally important by operators in the real economy.

The Theories of Financialization

The socio-economic importance of the financial sector and financial capital is not a new occurrence. As the outset of the Twentieth Century, the Austrian economist Rudolf Hilferding (1981 [1916]), showedthat the division of the world market into national spheres of influence was transformed froma system originally linked to colonial military power to a system based on spheres of financial influence. In his book,*The Financial Capital*,Hilferdingdemonstrated the existence of a collusion between banks, large companies and nation-states for exclusive control of trading blocs. Each of these territories was dominated by a national capital that, benefitting

from protectionist policies and military actions, excluded foreign economic actors and capital. This form of collusion between financial capital – primarily represented by banks –and productive capital – that is large companies – was defined with the term imperialism. Imperialism was the concept that for most of the Twentieth Century was employed to describe the evolution of world colonialism form a system based on direct military occupation and political control to a system based on economic control (Saccarell and Varadarajan 2015).

In the case of agriculture, early forms of financialization involved the creation of *forward contracts* that became an established practice among farmers and millers in the Nineteenth Century (Fairbairn 2015; Russi 2013). Forward contracts refer to the pre-harvest sale of agricultural commodities for producers and buyers agree on the price of sale before the agricultural commodity isphysically available. As such, forwards involve the *ad hoc*interaction between an actual buyer and an actual seller and an agreement between them. As this practice became popular, it was standardized. Therefore, rather that *ad hoc*contracts between farmers and buyers for future sale, a unified price for agricultural commodities to be sold at any given time was created. Thisstandardized forward contractsarethe contemporary*futures*. As agricultural trade evolved,the trading of futures became a fundamental component of agricultural activities in the Nineteenth Century and later in the Twentieth Century. Yet, during this time the trading of futures remained a function of the productive dimension of agriculture.

The financialization in agriculture and food has evolved significantly since the early portion of last century making the current characteristics of this phenomenon significantly different from those of the past.By and large, this change has been analyzed by four theories. According to supporters of the *Political Theory* (e. g., Krippner 2011), the current financialization is the result of the deregulation of finance that accompanied the implementation of neoliberal policies in the 1980s. More specifically, it is due to the “unwanted” outcomes of legislative initiatives that were directed at curbing the high rates of inflation of the late 1970s and early 1980in the United States. These measure centered on a sharp increase in interest rates and the deregulation of the financial sector. As these measures took effect, financial investment became more attractive than other types of investment and, as a result, capital increasingly flowedtothe financial sector. For Krippner and likeminded scholars, the action of the government were, therefore, central in the creation of the current domination of financial capital. Yet, this was an unwanted rather than planned consequence of government intervention.

While there is agreement that the deregulation of the financial sector was a primary factor in the development of financialization, doubts remain on the credibility of thenotion that it was an unwanted consequence of state intervention. In particular, it is difficult to accept that capitalists were simple bystanders in the creation of a process that involved the generation of enormous profits. According, another group of theorists, the*post-Keynesians* (e.g., Minsky 1986),points out that financialization is the deliberate result of neoliberal reforms carried out since the 1980s. In particular, they stress that this was the result of the increaseof the power of lenders, rentiers and shareholders who supported the growth of debt as the dominant form to finance consumption. Because real wages either declined or remained stagnant, this theory argues, banks and finance companies pushed households to use credit to pay for their expenses. This situation refers not only to extraordinary expenses such as the purchase of homes or cars, but also to everyday and necessary expenses such as food, clothing and household goods. Post-Keynesian contend, however, that this process was not simply consumption driven. It was also reinforced by the relatively low rate of profit available in the productive sector.As this situation

fostered aflow of capital into the financial sector and away from the productive sector, it resulted in an adverse impact on the real economy forinvestment in the productive sector were reduced.

As far as the power of shareholders is concerned, this theory holds that financialization impairs the growth of the real economy and the welfare of communities because the ultimate goal of financial actors is to increase the value of theirportfolios. Therefore, shortermismbecomes dominantover actions that create jobs, better the conditions of working men and women and improve the wellbeing oflocal communities. Practices such as "share buybacksand"stock option payments" diminishthe availability of capital for investment and job creation while rewarding capital remuneration. In the case of "share buybacks," a company buys its own shares and, as such, fosters an increase in the price of its stock. This action signifies that available capital is employed to boost dividends for shareholders rather than being employed forproductive investment. In the case of "stock options,"a manager receives part of his/her compensation in company shares. These shares are credited to the manager's account at today's price. However, the manager is left with the option of cashing them at a time that he/she deems convenient.Normally, this is the case when the price of the company share is higher. Accordingly, managers are encouraged to increase the value of the company shares in the short term in order to cash a greater compensation than originally received. Also in this case, increases in the value of the company are not necessarily connected with medium and long-term plans that involve productive investment. As it will be illustrated below, disinvestment plans are often powerful tool to boost stock prices.

While this theory explains the internal logic of the functioning of the financial sector and stresses the deliberate actions of actors in the polity, it does not take into account the overall evolution of the economy and society and its contested nature. The theory of *underaccumulation*addresses these concerns by placing the process of financialization in the context of the overall evolution of capitalism.Proposed in the 1960s by American economists Paul Baran and Paul Sweeze (Baran and Sweeze 1966),it stresses that the contemporary economy is not a free market economy, but it is rather characterized by the presence and growth of monopolies. The expansion of monopolies not only generates a concentration of capital, but also producesa concentration of profitsthat growat a faster rate thanwages and salaries.Because wealth is concentrated in the hands of a relatively small number of capitalists, consumption tends to stagnate for labor is underemunerated and the propensity to consume declines with the growth of income. As a result, these authors contend, there is a crisis of the aggregate demand that does not expand enough to match increased levels of production and productivity. This is one aspect of the crisis that is termed crisis of underconsumption. Simultaneously, however, lower rates of profit engender conditions that discourage investment and promote the search for new and more attractive uses of available capital. The financial sector,they contend, isan area of the economy in which profit is higher. Therefore, the financial sector is transformed into a solution of the crisis of growth of the real economy.This structural theory of the growth of financialization is placed in the context of the historical evolution of capitalism. Accordingly, for Baran and Sweezy and their followers,financialization should be addressed structurally rather than through the implementation of contingent political measures.

A rather similar theory is proposed by the sociologist Giovanni Arrighi that stresses the *cyclical nature of financialization*. Member of the group of theorists who interpret global changes in terms of the *lounge durée*, or the idea thatthe analysis of changes should be undertaken over a long period of time, Arrighimaintains that it is the cyclical evolution of

capitalism that produces the financialization of the economy. Employing historical observations, this author maintains that cycles of economic expansion and crisis have always resulted in ashift of concentration of capital from the productive sector to the financial sector. According to this theory, therefore, the end of each long economic waveis characterized by processes ofexpansion of the financial sector and the financialization of the economy.

Finally, the idea that the crisis of productive capital generatesthe growth of the financial sector is also proposed by authors that, however, suggest that this is the result of the specific evolution of capitalism.Financialization, they argue, is a direct *product of the establishment of neoliberal globalization* (Crouch 2011; Lapavitsas 2013). The crisis that has led to the development of financialization, they argue, is part of a structural transformation that has changed the balance between production and circulation of capitalin favor ofcirculation. Financialization is characterized, therefore, by a change in the modus operandi of production enterprises that increasinglyoperate in financial markets. Simultaneously banks have increased their focus on lending to individuals and on the sale and purchase of shares and other equities. Consequently, a large amount of profit has been generated by the direct extraction of value from wages for wages are reduced by the development of financial debt. This situation implies a financial form of exploitation or financial expropriation. Under these conditions, central banks have become increasingly powerful. Simultaneously, imperialism has deepened and capital from the South has been transfer to support financial activities in the North.Since the late 1970s, these authors contend, a North-South flow of capital has been fueled by oil production and the decentralization of manufacturing.To compensate for this outflow of capital, the United States and other core countries have forced Southern countries to invest this surplus capital in the financial sector through the acquisition of equities and debt. As productive capital is decentralized and greater flows of financial capital are funnel into the financial sector of the North, financialization, they conclude emerge as the most defining characteristics of the economy in the first decades of the Twentieth-first Century.

The Evolution of Financializationand the Case ofAgri-food

The standardization of forwards and the increase use of futuresdiscussed above has been accompanied by the growth of a number of additional financial instruments. This growth has been fueled by the neoliberal deregulation of the finance and banking that has characterized the economy since the early 1980.Since that time, the trading of futures has been accompanied by the increased use of *derivatives*. These arecontracts whose value is generated by the performance offinancial entities such as assets, indexes or interest rates. The financial entity upon which the value of a derivative is based in called “underlying.” The use of derivatives has increasingly impacted the trade of agricultural commodities that have become parts of the creation of new derivatives. In some instance this process is the result of the actions of *hedgers,*these are traders that attempt to protect their interests from the fluctuation of prices. As hedgers may fear an increase in prices they tend to lockprices at levels that they feel acceptable. As in the case of derivatives, hedging does not require the physical ownership of agricultural commodities. This is due to the factthat these financial activities are based only on the promise to pay and occur independently from ownership. In the event that traders feel that prices will diminish they will “go short” or sell their financial assets before actually buying them. In the case they assume that there will be an increase in prices, they will “go long” and actually buy them before selling them.

The action of hedgers, however, are accompanied by the actions of speculators who are not interested in the agricultural commodity per se, but simply in gains derived from changes in its prices. These speculators are known as *arbitrageurs*.Speculation has been a fundamental dimension in recent crises of the agri-food sector and increases and also collapses of prices of agricultural commodities. The first stage of the current process of financialization took place at the end of the 1990s and beginning of the Twentieth First century with the further deregulation of the financial sector. In particular, it is important to mention the introduction in the United States of the "Commodity Future Modernization Act" that drastically changed the functioning of agricultural commodity trading in the US stock market and consequently world-wide. One of the consequences of the introduction of this legislation was the creation of the so-called "Over the counter derivatives" or OTCs. These are derivatives that are not standardized, traded in an ad hoc fashion and, more importantly, are not controlled by any regulatory body. This situation signified that they are traded without disclosing pertinent information to the public.

As this deregulation took effect, the concomitant expansion of the internet produced the"dot com" financial bubble. The unregulated flow of speculative investment disproportionally increased the price of internet-related financial assets. As in the classical case of financial bubbles, once prices began to decrease, a crisis of over-valuation of assets emerged with the elimination of virtually all the financial gains that were previously achieved. Measures to counter the crisis involved a further deregulation of the financial system anda reduction of interest rates. The rationale behind these measures centered on the idea that an increase of the mobility of capital coupled with a greater capacity to borrow capital would create more opportunities to invest. Accepting the thesis that the financial sector can self-regulate, a great number of governments around the world, and above all the United States, reduced state control and supported the evolution of regulation by third parties such as certification and rating agencies. This was also a solution supported by the private sector.Supermarkets, for instance, identified in the convenience and quality of their products the new space of competition and promoted the view that regulation by certification agencies brought about the impartiality, effectiveness and desirability of a control system that finally was removed from the domain of the state (Busch 2011). In reality, the level of control did not increase. However, companies achieved a greater freedom of action and, above all, a diminished level of public scrutiny of their actions. Companies became active participants in processes of control and firmly contributed to their outcomes (Busch and Bain 2004).

The deregulation of financeand the expansion of financialization

The deregulation of finance and the crisis of the productive sector motivated companies to expand their involvement in financial activities. In effect, this was the continuation and acceleration of a process that had already initiated in previous decades for production and retailing firmsbegunto issue credit to their clients. In this case, companies in popular sectors such as the automotive, clothing and food,provided credit and credit cards to consumers. In a short number of years, the profit generated by these financial activities equaled and even surpassed that generated by sales. The evolution of this process was further accelerated when companies begun to finance their economic activities through *bond issuing programs*. As companies created their own bonds, they bypassed banks in the creation of debt. This occurrence created a parallel banking systemknown as *shadow banking*. Once displaced by this new initiative, banks entered a period of crisis that required a reformulation of established strategies. The solution sought was to

increase the availability of credit to the general public. Accordingly, there was the expansion of the availability of credit even for groups that previously had problems qualifying for loans. Simultaneously, these new loans became parts of new financial assets that once created were sold to investors. Accordingly, the expansion of credit opportunities for members of the middle and lower classes evolved into the expansion of the availability of financial assets for investors and speculators.

In many countries, such as in the case of the Unites States, this growth of financial activities translated into an increased availability of credit for extraordinary expenses such as the purchases of homes. Part of the neoliberal model of financing consumption through increased individual indebtedness, this process allowed banks and other financial institutions to employ the financial market as a lucrative sources of profit. Additionally, these institutions promoted the extended availability of credit to middle and lower class members as a tool to justify their increased involvement in speculative activities. In the United States, for instance, for decades, minority groups, such as African American, Latinos and the poor,were either excluded and/or discriminated in their search for credit for the purchase of a home.Conversely and for the first time in history, this changegave them access to credit at favorable conditions that largely ignored lack of guarantees, bad credit histories and low income levels that traditionally were employed to limit the availability of credit for these groups. Known as ‘subprime” loans, these loans were considered good investment opportunities by financial institutions that speculated on price increasesin, and expansion of, the real estate market. Promoted by the increased use of econometric models, financial investment became increasingly tied to data generated by these models rather than changes in fundamentals of the economy.

The expansion of credit and the concomitant creation of new financial assets involved the constant search for new items to be included in the asset creation process. Agricultural and food commodities fitted this model. In particular, it is relevant to mention that during these years, the acquisition of large segments of land by financial investors characterized the panorama of agri-food investment. Two relevant actors emerged in this process. First, institutional investors, such as pension funds and hedge funds, begun to massively invest in the acquisition of land.In this case, land was considered a financial asset endowed with augmentable value rather than a factor of production. As forecasts about land and agricultural commodities prices were issued, the selling and buying of land varied accordingly. The second group of investors consisted offoreign nations. In this case, funds managed by nation-states, such as China, begun to acquire land supported by the publically stated rationale that this land was needed to guarantee the availability of food for their expanding populations. In reality, financial interests were of significant importance. The availability of capital generated by surpluses in their trade balances motivated these countries to find lucrative uses of this capital. *Land grabbing*, as it is termed, represents as important form of investment for it involves the low price purchase of land that is heldin property until its value has grown to desired levels. In general, these two groups of investors have taken advantage of domestic economic crises ofcountries of the global South that have reduced the value of their currencies and assets. Accordingly, the process of *accumulation by dispossession* have characterized the evolution of financialization in the South (Harvey 2003).For more than a decade into the new century, it seemed that the process of expansion of credit to low income households could continue uninterrupted. Responding to the artificial inflation of home prices but also the stagnation of wages and salaries, working and middle class families altered their economic strategies. The new availability of credit permitted to offset

declining and/or stagnating family incomes allowing not only the purchase of new homes but also the availability of funds for other expenses. These new loans, however, required term refinancing that needed the constant increase of the price of the homes against which these loans were issued. In essence, the conversion of equity into available spending money was predicated upon the continuous expansion of the real estate market and increases in home prices.

The actions of financial speculators were complemented by structural conditions that, set in motion by the deregulation of the financial sector, created destabilizing processes (Russi 2013; Fairbairn 2015). As part of the creation of new financial instruments, in the 1990s, the noted merchant bankGoldman Sachs created a commodity index and initiated to sell assets based on this index as OTC financial products.The *Goldman Sachs Commodity Index*(GSCI) consists of the indicization of a basket of future commodity prices that reflects the combined trends of these futures. The creation of this index ignited a flow of investment as its deregulated status was considered highly attractive by financial actors. Commodity indexes such as the GSCI are traded in *swaps.* A swap is a derivative in which two parties exchange cash flows consisting of financial instruments of one party for financial instruments of the other party. In essence, in a swap an institutional investor,such as a pension fund, paya merchant bank – the swap dealer – the equivalent of the current three-month treasury bill rate plus a management fee. In return,the investorreceives the equivalent of the changes in the index over the agreed upon period of time. For investors, swaps are attractive as they reflect the overall trend of the market and avoid the perils of investing in one single derivative. For the merchant bank entering in a swap contract neutralizes possible negative changes in the values of the commodities forming the index and allows the merchant bank to profit fromcashing the management fee and the treasury bill rate. However, for this process to unfold smoothly, the merchant bank needs to match the possible negative changes in the commodity index with an investment strategy that matches the index performance. Normally, this strategy is carried out by keeping the same proportions of commodities constituting the index in the bank portfolio. This strategy assumes particular importance in the context of the expiration of futures. Because futures expire, the merchant bank has to renew the expiring contracts for a new term and therefore create new contracts. This recurrent structural conditions force the merchant bank to sell and buy futures regardless of market fundamentals and the status of the supply and demand. In essence, these are actions that are associated with the nature of the financial deals that indexing, swaps and other associated financial actions entail (Russi 2013).

Because of its financial attractiveness and lack of control, speculation associated with commodity indexes gained momentum in the first decade of the new century with about 40 percent of all positions within the entire future market were held in commodity index speculative positions. This percentage remained equally high in the following years and speculators now trade agri-food futures with little regard of the actual supply and demand of agri-food commodities. There are additional structural conditions that affect this process and distance the price of futures form real economy conditions. In the future market, spot prices – that is the current market prices of commodities – are normally greater than future prices. At maturity, future prices are considered to be equal to spot prices. Accordingly, the normal evolution of a future price involves a declining of the price form its highest point (spot) to its future point (futures). The longer is the term of the future contract the greater is the difference in price between spot and future. This normal trend is termed *backwardation*. However, this normal trend has not been the norm since 2008 for the prices of futures have been usually higher than spot

prices. The technical name for this unusual yet now recurring situation is *contango*. The persistent existence of contango is mostly due to the fact that as swaps expire, merchant banks charge higher management fees to offset higher prices at expiration. However, at expiration, commodity prices tend to be undervalued because contracts need to renewed and, therefore, there is an oversupply of commodities. In this context, speculators intervene to take advantage of the low short term prices that, likely, will be transformed into higher long term prices. As commodity prices increase, other investors intervene favoring the creation of contango and making commodity prices even more detached from economic fundamentals.Speculators supports this mechanism forit not only allows the payment of higher management fees but virtually guarantees a profit. Overall, the higher value of futures has resulted in the hoarding of commodities as speculators bet on their increased value. This situation sends the wrong signal to producers and consumers.It follows that a structural tendency has been created whereby the existence of contango further pushes the demand for agri-food commodities upward and creates scarcity that sharply affect consumers and particularly those in the lower and middle classes and in developing countries.

As it is well documented, the crisis of 2008-07 was the result of the over financialization of the economy (Crouch 2011; LapavitsasCostas 2013). Also well documented is the massive intervention of the state to address this crisis. In the United States, the crisis required a de facto nationalization of the banking system for state officials took control of failing financial institutions and the US Treasury injected significant quantities of funds to compensate for the important losses.Similar measures were taken in other parts of the world for the resolution of the crisis depended upon strong state intervention (Bonanno 2017; Lapavitsas 2013). Less publicized are the effects of this crisis in agri-food as a great number of accounts interpreted the dramatic increase in price of agri-food commodities that occurred at the time as related to trends in the real economy. While the supply and demand of commodities in the market was certainly a component of the crisis, the role of the financial market was also fundamental. In particular, the growth of commodity index funds propelled by the deregulation of finance opened up a flow of speculative moves that, as described above, triggered constant and structural increases in commodity prices that were felt particularly in developing countries such as in the case of Mexico. Moreover, this crisis was escalated by the introduction of new financial instruments that accelerated the financialization of prices. One of these instruments is the *Exchange Trade Funds*. This is an index fund that is standardized and therefore can be traded as if it were a stock. As an entity traded in stock exchanges, it is open to retail clients and, as such, sharply influence the price trends of a great number of agri-food commodities (Russi 2013).

The Primary Actors of Financialization

Two major groups of actors control the financialization of agri-food. The first consists of financial firms and non-agricultural companies. *Financial firms,* such as hedge funds, pension funds and companies that manage private wealth invest, operate in agri-food with the exclusive objective of financial gains. Following the rationale outlined above, these financial organizations identified commodities in the agri-food sector as attractive financial investment. Their logic is that of short-termism and their outlook does very rarely include the well-being of agricultural producers, rural communities and consumers. The central dimension of their involvement is the valorization of financial assets. Given the declining rate of profitability that often accompanies the expansion of the financial sector, the search for new investment represents a key aspect of the

management of these firms. Accordingly, pension funds or hedge funds managesweighagri-food investment against other possible forms of investment available in the broader market.

Non-agricultural companies are also interested in offsetting declining rate of profitability and, therefore, are searching for new investment to diversify their activities and increase their profitability. For instance, the computer giant IBM has been consistently investing in agri-food since the beginning of the new century (Sekine and Bonanno 2016). Most of its investments have been in production and involved region in developing and developed countries alike such as Philippines and Indonesia as well as Japan and France. Also in this case, there has been very limited interest in linking investments with rural development and the improvement of the well-being of agri-food communities. Conversely and following the phenomenon of global sourcing – or the search for convenient factors of production and political climate (Bonanno and Constance 2008) – as investments do not turn out as profitable as anticipated and/or the socio-political conditions change, IBM has disinvested and often moved its productive facilities to other and "more attractive' regions. This is a pattern consisted with the phenomenon of *hypermobility of capital* often indicated by pertinent literature as one of the major consequences of the neoliberal globalization of the economy and society (Bonanno and Constance 2008; Robinson 2014).

The second group of actors that control the process of financializationconsists ofagri-food *transnational corporations* (TNCs) and, among them, *global supermarket chains*. The exposure of agri-food TNCs to the financial market has increased exponentially in recent decades to the point that their business strategies are often dictated by financial rather than productive interests. To illustrate the point, allow me to use the case of theagri-food TNC Nestlé (Bonanno 2014). Known as the "Nestlé model" in the specialized literature, the financial maneuvering of this food giant is a classic example of the manner in which financially driven value growth creates significant and negative socio-economic consequences such as unemployment, wage stagnation, and economic instability. In 2006, Nestlé announced a 21 percent increase in net profit, a 12.5 percent dividend payout and the allocation of $ 4 billion for a new round of share buybacks. As investors were rewarded, Nestlé also carried out a 10 percent world-wide downsizing of its labor force based on the direct elimination of existing jobs, outsourcing and plant closing. A central element of this model is the understanding that, from the financial point of view, a better company is one that can produce more with less labor. Accordingly, a company that underwent a process of restructuring is considered a sound financial investment. Once restructured, the company market value increases on the expectation that it is more efficient. The net result is that the augmentation of the company's financial value crates added remuneration for stockholders and CEOs but increases employment and depresses wages among workers. As unemployment and lower wages negative impact consumption, overproduction is addressed by additional labor force downsizing and restructuring resulting in more employment and socio economic instability.

The case of global supermarket chains is equally relevant. In recent decades there has been consistent concentration of retailing that through hard competition and mergers and acquisitions has transformed a rather competitive sector into a very concentrated one. This is also the case of Latin America where the concentration of food retailing lags behind those of North America and Europe. This concentration of power at the retailing level has allowed supermarket chains to establish control not only over retailing and distribution but also production. Simultaneously, their involvement in the financial market either directly though the offering of stocks or indirectly through financial investment and operations has solidified their power and position. At the level of production, supermarket chains control production by offering

purchasing contracts to farmers. Given the large volume of agri-food products that they manage, supermarkets entice farmers of all sizes to sign production contracts with them. Producers see these contracts as a relatively secure outlet for their production and a better alternative to spot markets. Contracts are accompanied by quality provisions that require that commodities are delivered following specific conditions. The existence of these standards is justified with the rationale that they respond to the preference of consumers. In reality, standards are created by supermarketsand change according to their industrial strategies (Busch and Bain 2004). For instance, supermarkets create their own brands that are usually cheaper than other commercial brands. This form of pricing nudge consumers to buy these products and therefore affects the so called consumer preference. Consumer preference, conversely, is interpreted as if it were an autonomous and independent process. Accordingly, the pricing of food items but also their location in the supermarket are long standing effective strategies to shape consumption (Busch 2011; Busch and Bain 2004; Lawrence and Dixon 2015).

Quality requirementsare enforced by certification agencies that inspect all facets of production and the products.By enforcing the conditions of production, certification agencies are de facto proxies of supermarkets in the management of production. Accordingly, while supermarkets control production, their presence in the fields is virtually invisible to the point that producers and their hired workers are often unaware of the power that supermarkets have on the entire chain of production. In spite of this position of control, frequently, supermarkets do not own production facilities. Farms, packing houses, shipment centers and other relevant facilities are owned and managed by different and often local actors (Bonanno and Cavalcanti 2011). Supermarket power, instead, resides in their ability to be *market gatekeepers* that, in the case of producers discussed here, signifies access to the large business of global markets. Through mergers and acquisitions supermarketshave expanded their control of key nodes of the production and distribution chain and, therefore, have increasedtheir power. In this scheme, they extract value by controlling access to key spheres of production and consumption processes.

Their size and capacity to buyare central aspects. Simultaneously, however,financial activities are also fundamental aspects in the creation of their power. First, given the increasing concentration of the retailing sector, shares of large supermarket chains are actively traded in stock markets and private equity firms and hedge funds invest in the purchase of supermarket stocks.Accordingly, the activities and overall value of supermarket chains are affected by speculative moves as much as they are by their sales. At the same time, speculative moves reflect restructuring processes that may be unrelated to real economy trends but affect employment and the real economy functioning of the business.Second, supermarkets transformed themselves into financial actors by offering credit to consumers. Following a trend that has characterized the retailing sector for the last few decades, a number of large supermarket chains offer credit cards to their shoppers. Word-wide, for instance, Wal-Mart, the largest food retailer in the world, has established a series of credit, debit cards and gift cards that are regularly employed in its stores. By charging interests on balances and various fees for services, large supermarket like Wal-Mart generate profit by purely operating at the financial level. Finally, supermarket chains have transformed their stores into financial center whereby a host of in store financial services, from banking to the purchase of insurance, are available. With the growth of online shopping of food, the credit and debit card system of payment is further increasing. It is quite rare, now, in many supermarkets in a great number of countries of the North and in a growing number of countries of the global South that consumers use cash for their payments.

The Consequences of Financialization

The financialization of the economy has engendered at least six important consequences. *First*, the real economy is now subordinated to financial activities and interests. This situation results in the fact that agri-food companies carry out their industrial strategies with a significant emphasis on financial objectives. Because the majority of profitsis now generated in the financial sector, not only this sector is the most powerful component of the economy, but the differences in objectives and strategies between financial and real economy firms have created a situation of conflict between the two sectors. This conflict is addressed through decisions that favor the financial activities and interests over those of the real economy.

Second, because of financialization, wages have been decoupled from productivity growth resulting in a stagnation of labor remuneration and rising income inequality. Income has been shifted from labor to capital as a greater percentage of remuneration is allocated to profit. Thisconditionssignifies that the explosion of finance is one of the most decisive contributing factors to the growing socio-economic inequality that affects many countries and regions around the world. Over the last several decades, the share of the total workforce employed in the financial sector has barely changed, much less grown at a rate equivalent to the size and profitability of the sector as a whole. This means that these the hefty financial profits are flowing to a small segment of the overall population that is employed in the financial sector. This is a trend that is also reflected by the fact that financiers have become visibly more prominent among the richest people in the world: the so-called "1 percent." Indeed, the percentage of those in the top 1 percent of income working in finance more than doubled between 1979 and 2015, growing from 7.7 percent to 16. 9 percent.

Third, as real wages and salaries stagnate and/or decrease, the use of credit has increased and the level of individual and household debt has also grown significantly. In this context, indebtedness is one of the major socio-economic problems of the first decades of the Twentieth-First century.Financialization signifies the domination of an economic system that thrives on the growthof indebtedness. Indebtedness has been employed by the global ruling class to offset the declining purchasing power of the working and middle classes. As these classes cannot afford basic consumption items, this lack of purchasing power has been compensated with the availability of credit. Yet, as thiscredit needs to be repaid, indebtedness increases socio-economic instability and translates into the declining of the well-being of families and communities. Going past the convenience of the use of a credit card over cash, the dominant system of indebtedness links basic consumption to the growth of the financial sector.

Fourth, profit generation has been decoupled from the creation of jobs. Defined as the jobless recovery, the era of financialization has been characterized by steady high levels of unemployment, an anemic creation of new jobs and the transformation of good well paying, stable jobs into precarious, unstable and poorly remunerated employment. Farming and the food transformation sector have historically represented areas of the production sector and labor structure in which wages have been constantly below average. Additionally, the instability and precarious nature of these jobs has also been noted. Current trends are as such that there is a *farmization* of the entire employment structure for a great number of available jobs from manufacturing to service (and this includes education) are increasingly characterized by the dominance of precarious, unstable and low paying jobs mirroring those typical of farming.

Accordingly, rather thanmoving toward the betterment of the conditions of labor and employment, financialization represents a trend that worsens these conditions.

Fifth, financialization has increased the instability of the economy. At the outset, the creation of financial products tends to increase collateral value. This expanded value allows more borrowing that finances investment spending and fuels economic expansion. As collateral value decreases, borrowing and investment fall triggering a downward spiral that results in a crisis. Attempts to address these recurrent crises have consisted in state sponsored bailouts and/or austerity measures that strained nation-states' finances, created unemployment, and undermined social stability. More importantly, austerity measures do not address the problems associated with the financialization of the economy. They, however, worsen the conditions of the working and middle classes as theyinvolve the reduction and/or elimination of social programs. In farming and the food sector, austerity policies often translate into the elimination of programs in support of family farming, rural communities and food for the poor.

Finally,financialization supports an overall *darkening*of social relations and relations of power for it is increasingly difficult to identify the actors involves in socio-economic processes and the roles that they play. As proposed by Giddens (1990), distanciation refers to the fact that the organization of social relations is increasingly controlled by distant actors. For Giddens this is a continuous process that initiated with the advent of modernity and capitalism. As society evolved, local actors that originally defined the organization of social relations have been progressively replaced by actors operating in the global sphere. In the case of financialization, the identification of these actors appears increasingly difficult as illustrated in the case of agricultural production directed by global supermarket chains. Local actors in the fields (farmers, hired workers, packers and exporters) are rarely aware of the actions of supermarkets whose industrial strategies are decided by virtually anonymous global investors.

Conclusions

There are a number of conclusions that can be derived from the analysis presented above. I would like, however, to point out two major issues that arguably have important implications on possible alternatives to the current situation. First, the subordination of the real economy to the financial sector makes actions designed to address problems at the production and consumption levelshighly problematic. This is the case for at least two reasons. The first rests on the fact that the roots of the problems experienced at the level of the real economy are affected by events and actors that operate in the financial sphere. Accordingly, proposing solutions to problems that involve exclusively the real economy will be limited at best. Similarly, analyses that focus exclusively on the real economy generate results that are necessarily incomplete. The second aspect refers to the fact that the implementation of alternative solutions to the status quo may clash with the interests of groups that operate in the financial sector. This situation problematizes the achievement of political alliances and equilibria necessary to promote change. But, it also allows for the weakening of coalitions that have been previously viewed as effective. In essence, the focus on the real economy necessary to address existing problems should be complemented by an equally relevant focus on the financial dimension of agri-food.

The second major issue refers to the identity of those financial actors that control agri-food. In this case, the problem is multifaceted for it refers not only to the actual identification of relevant groups that operate in the financial sphere, but it also involves the ability of national governments to control and regulate their actions. Given the analysis presented above, it is

evident that, in both instances, national governments and their institutions face significant problems in managing the flows of resources and the actions of transnational financial actors. Therefore, established strategies to address crises of the agri-food sector may be made ineffective by this changed conditions. This situation requires a significant reconsideration not only of political strategies but also of the availability of accurate analyses that informs them. Arguably, this represents the new relevant role that research in agri-food should carry out: a precise and incisive analysis of the role of finance in the functioning ofagri-food.

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RECIBIDO: 20/6/2016 APROBADO: 30/06/2016