Financialization of Commodities in Perspective.

A viewpoint from Keynes's investments

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1. Introduction

Commodity prices reached a spike in 2008, after nearly three decades of low and declining trend. The two preceding booms of the post-World War II period occurred in 1950 and 1973, but lasted less than two years, unlike the more recent one which saw prices rising as from 2003 (Arezki et al, p.17).

The spike was followed by a slump, which at present sees the prices of coal, cotton, corn, iron ore, copper and indeed oil at multi-year lows. Volatility seems also to have been rising in a number of commodities (Calvo-Gonzales et al. 2010), again prompting the unsettled question as to what forces are fuelling and dampening prices in these markets. Evidence on the role of speculation has been mixed, but in general it can be said that while the heterodox literature agrees that financialization in commodity markets has produced more rather than less instability, the mainstream idea is that by bringing information to the market speculators have a positive effect in stabilizing prices (see the review in Cheng-Xiong 2014).

Since the 2007-8 crisis several proposals for regulation have been put forward in the US, UK and Europe to limit speculative activities, introducing various forms of limits and restrictions which from many quarters have been considered insufficient.1

In fact, speculation and financialization in commodity markets, although never so pervasive and persistent as they have been since the early 2000s, are hardly a new phenomenon. In the 1920s price volatility and speculation also raged. In fact, of the 13 instances of the price of a single commodity rising by 500 percent or more in the 20th century, two occurred in 1920: the price of sugar rose by 641 per cent, the price of cotton by 538 percent (Wray 2008).

1 “Regulations have been proposed in the US in the context of the Dodd Frank Act and in the EU in the context of the revision of the Markets in Financial Instruments Directive (MiFID). However, these regulations have limitations, in particular the form of important exemptions concerning position limits where the coverage of OTC trade is not ensured and commercial traders that are exempted from many requirements, which is particularly problematic given the increasingly difficult distinction between genuine hedging and speculative activities” (see Staritz-Küblböck 2013).
As early as the 1920s organized commodity markets were sophisticated trading places in which a variety of derivatives were traded, attracting shrewd, highly leveraged speculators who treated commodity futures as an asset just like stocks and bonds. The ensuing high price volatility and frenzy speculation which characterized the period gave impulse to the wave of regulations of the 1930s, which would remain in place well into the 1970s.

In the 1950s and 1960s instruments such as buffer stocks and export quotas in the context of International Commodity Agreements (ICAs) and national commodity boards played major roles in dealing with commodity price risks. These institutions were largely dismantled in the 1980s and 1990s when commodity derivative markets again became the main mechanism to manage these risks (Nissanke 2011). The 2007-8 crisis rekindled concern over the perils of unregulated financial market and the need to address them with regulatory measures.

But how should the process of financialization of commodity markets be defined and measured? Is the answer to be found in the quantitative increase of futures trading unrelated to changes in the size of physical markets, by financial firm investing in commodities as assets, as indicated by the level of open commitments? Or should we investigate in fuller and better-focused detail the working of these markets and their evolution in different times and places, showing how the increase in financial practices has been brought about?

As a contribution in this direction, I look into the activity of a very special and eminent player in commodity markets, namely John Maynard Keynes, whose portfolio was invested mainly in commodity derivatives (futures and options) throughout the 1920s and to a lesser extent in the 1930s. He traded futures in cotton, copper, tin, lead, spelter, sugar, jute, rubber, wheat, maize, cotton oil, lard and linseed oil and also options in copper, tin, lead, spelter, rubber and linseed oil.

As a result of this intense speculative activity, Keynes acquired – in his own words – “an extremely wide practical acquaintance with commodity markets and their habits” (CWK XIII: 627-28), which eventually informed his approach to these markets from the point of view of a regulator. In 1938 he put forward the first Buffer Stocks scheme to curb the volatility of commodity prices, which he refined over and over in the early 1940s (Hirai 2009), as part of his more general endeavour to stabilize the international monetary system, arguing against “unfettered competition” and in favour of regulation.

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2 “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 ... 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 in its list in recent years...Today, 31 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 depositary receipts, ordinary shared and structured products” (Newman 2008).
The market places in which Keynes was active in the 1920s and 1930s were Liverpool, London, Chicago, Winnipeg and New York. As a representative sample, I will take a closer look at the markets of the three commodities which Keynes traded most, namely cotton, tin and wheat. This I will follow with a short assessment of Keynes’s trading in these three commodities, as a way to illustrate his general behaviour as a speculator. Finally, I will evaluate Keynes’s Buffer Stock scheme to stabilize commodity prices in the light of the present state of regulation proposals.

2. Commodity markets in the Interwar period

In the interwar period futures and a variety of options in various commodities were actively traded in several exchanges, having become global institutions subsequent to the installation of the transatlantic cable (1866), and the telephone (1880) (Baffes 2011). The most important of them are listed below, with the approximate date in which trading in futures formalized, and the commodities traded:

**Great Britain:** Liverpool, (early 1870s: cotton; 1883; early 1880s: wheat, maize, corn; 1930: sugar); London Commercial Sale Rooms (1877: sugar, coffee, rubber); London Baltic and Corn Exchanges (early 1880s: US wheat and maize; Canadian wheat; Argentinian maize); London Metal Exchange (1877: copper, tin, spelter, lead).

**France:** Paris (early 1880s: grains, rubber); Le Havre (early 19880s: coffee, cotton, pepper, wool).

**USA:** Chicago Board of Trade (early 1870s: grains, lard, pork bellies; 1924: cotton); Chicago Mercantile Exchange (1919: eggs, butter); New York Cotton Exchange (1870: cotton and cotton seed oil); New York Produce Exchange (1861: grains, oil); New Orleans Cotton Exchange (1882: cotton); New York Mercantile Exchange (1882: fruits and canned goods).

**Germany:** Hamburg (1880s: rubber, grains, sugar, copper, coffee); Bremen Cotton Exchange (1872: cotton, oil).

**Other Countries:** Tokyo, Japan (1868: rice, cotton, silk, sugar); Osaka, Japan (1750s: rice); Alexandria, Egypt (1871: cotton); Bombay, India (1875: cotton, oilseeds); Kolkata, India (1912: jute); Izmir, Turkey (1891: cotton); Winnipeg, Canada (1904: grains); Buenos Aires, Argentina (1907: wheat, linseed, corn, and oats).

The commodity markets where Keynes operated for almost 20 years (1921-1939) were: the London Metal Exchange (copper, tin, lead, spelter), Liverpool (cotton, wheat, spot and future), London Baltic and Corn Exchange (corn, Manitoba and London grade

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3 The basis of futures contracts is the emergence of arrivals markets in commodities from abroad; however, the inception of organized futures trading is difficult to date since it depends on the choice of the features considered to be most important (presence of a Clearing House, standardization of contracts and so forth).
wheat, linseed oil, cotton seed, maize, rubber); London Commercial Sale Rooms (sugar); Chicago Board of Trade (corn, lard, wheat), New York Cotton Exchange (cotton, cotton oil) and Winnipeg (wheat); Buenos Aires (wheat). (See Appendix 1 and 2 for more details on these exchanges).

In Keynes’s times there were several differences in these exchanges, where the rules of trading reflected the specificity of the commodity involved, and in general the different regulatory character of the UK and US markets. The former had long-standing traditions of self-regulation, legally grounded in the law merchant and common law, which persisted till very recent times (Gilligan 1998), while the latter was increasingly under the control of the Federal government and agencies. (See Appendix 2).

Moreover, almost all the commodity futures markets were specialized exchanges, dealing with specific sets of commodities traded, and seldom in association with other financial instruments. By the early 1920s most of them had Clearing Houses, large membership, and a number of informed and knowledgeable brokers who acted as intermediaries for merchants, commissioners and general traders. Speculation, market cornering and squeeze were not infrequent, especially in the US, where access to futures markets was easier also for smaller traders and where the so-called bucket-shops were spreading by the turn of the 19th century.

3. Actors and financial instruments

The financial instruments available to speculators in commodities in the 1920s were not so very different from the ones we are accustomed to see in today’s markets – except of course for the advance in technology which has greatly increased the frequency, style and volume of trading and for the appearance of more sophisticated contracts, such as exchange trade products, commodities index funds, commodity swaps and commodity-linked medium term notes.

Although it has never been easy to draw a clear-cut line between hedgers and speculators, it is useful to single out the class of market players who do not wish to possess (or use) the commodity they buy forward, nor produce (or own) the commodity they sell forward. It is a class of players, the speculators, who—unlike hedgers—deal in futures contracts only, i.e. they do not buy and accept delivery of commodities, nor do they sell or deliver commodities.

The distinction between commercial or non-commercial trader was made by the US Commodity Futures and Trading Commission until the second half of the 2000s. A commercial trader is one who is “commercially engaged in business activities hedged by use of the futures or option markets. This would include production, merchandising,
or processing of a cash commodity, asset/liability risk management by a depository institution, security portfolio risk management, etc.” (CFTC Form 40). All other large traders who do not meet these criteria are classified as non-commercials. Commercials are normally referred to as hedgers, while non-commercials have no underlying cash business and are hence treated as purely speculative traders.5

Instead of settlement by delivery, futures contracts are in the majority of cases offset by contracts which are the reverse of the previous commitments. Speculators who have sold (bought) a future contract of a given maturity, before expiration must buy (sell) the same amount of the same future. They make profit whenever there is a positive difference between the buying and the selling price of any futures contract. If prices fall, the ‘short’ who has sold the future at higher price can buy it (‘covering’ his/her position) at a lower price, making a profit. The ‘long’ who has bought the future at higher price and sells it (‘liquidating’ his/her position) at a lower prices, bears a loss. Conversely, if prices rise, the ‘short’ suffers a loss and the ‘long’ makes a profit. So speculators who expect future prices to rise, are on average ‘long’ and those who expect prices to fall are ‘short’.

On the other hands, hedgers who cover their position in cash market (as buyer or sellers of commodities) take an opposite position in the future market; against a forward sale of cash commodities they sell futures in that commodity (they become ‘short’), while hedgers against forward sales of cash commodities they buy futures in that commodity (they become ‘long’). A perfect “hedge” is when the loss/gain in the cash market is entirely offset with again/loss in the future market.

Besides futures contracts, options are also typically traded in commodity markets. An option in futures is a contract to buy or sell a futures contract at a future time. There are two types of options: a) call options, giving the right to buy the underlying futures at a specified price within a specified time; (b) put options, giving the right to sell the underlying future at a stipulated price at a specified time. If a trader expected an increase in the market price of a given future, he/she would buy a call option, which entitles the purchaser to buy the future at a specified price. If the price actually rises above the stipulated price during the specified period, the trader makes a profit exercising the option, i.e. buying the future at the lower stipulated price and selling the future at the higher price. Conversely, if a trader expects a fall in the price of the future,

5 “Following criticism that the commercial/ non-commercial distinction had become descriptively and analytically useless, CFTC’s categorization was revised around 2009 to de-limit three new or redefined types of trader: first, market participants with positions in the physical market (‘Producers/Merchants/Processors/Users’); secondly, ‘swap dealers’, that is, dealers, almost always banks, taking positions in futures markets to cover swaps entered into with private clients; and thirdly, ‘managed money’, that is, ‘commodity trading advisors’ or ‘commodity pool operators’, essentially advisors or managers working for different types of funds seeking exposure to commodities.” (Gibbon 2013: 11).
he/she would buy a put option, which entitles to sell the future at a given price. If the price actually falls, he/she can make a profit by buying the future in the market and exercising the option, i.e. selling the future at the higher stipulated price. If prices do not match expectations the option is not exercised and the loss is only the premium, i.e. the price paid for the option.

While the buyer of the option has the right to buy or sell the underlying future at the stipulated price and time, the seller of the option has the obligation to sell or to buy the underlying future at the stipulated price and time. Sellers of put and call options have typically a corresponding position (‘long’ in the case of a call option and ‘short’ in the case of a put option) in underlying futures and they trade in the expectation that the option expire worthless so that they can pocket the price of the option (the so-called ‘premium’) as profit.

Options – or privileges as they were initially named- were typically traded OTC, as we would say today. Use of these instruments was regarded as being of a speculative a gambling nature and a series of regulatory measures were brought in to restrict their use. Options in metals were actively traded in London and Keynes himself was extremely active in them (see Marcuzzo-Sanfilippo 2015).

Besides ordinary calls and puts other types of options were available in several markets. First of all the double option, which was a combination of a put and a call, giving the right to exercise only one of the two at the expiration date. This type of option was quite expensive and was used when prices were particularly volatile since the holder could gain not by anticipating the direction of price movements but just by the size of the price change, for the double could be exercised as a put or as a call.

A very peculiar type of contracts were the BOD (buyer’s option to double) and the SOD (seller’s option to double), which was an ordinary sale of a future with the purchase of a put option attached. If the amount was not doubled at the expiration date (i.e. the option part was not exercised) these contracts worked in all respects as standard future contracts, although they had been negotiated at a price which was higher (in the case of BOD) or lower (in the case of SOD) than the standard future price in order to include the option premium.

All these types of options, like the standard call and put, were of the European type, namely they could be exercised only at maturity.
4. Commodities most traded by Keynes

The major agricultural commodities traded on the exchanges during the mid-1930s were wheat, cotton and corn, which accounted for approximately 95% of all futures trading. (Campbell 1958: 220). Keynes was no exception, since cotton and wheat, together with tin, were the commodities he traded in most and which weighed most in his portfolio. In June 1937, his total investments were: 36% in US shares and stocks; 18% in UK securities; 14% of foreign exchange (futures); 32% in commodities (futures), and one-third of the commodity futures was accounted for by wheat (See Fantacci-Marcuzzo-Sanfilippo 2010).

Cotton

Cotton was already a highly financialized commodity in the 1920s, when there were at least 15 cotton futures exchanges operating around the world (See Baffes-Kaltsas (2004). The most important were located in the USA (New York, New Orleans and Chicago), Europe (Liverpool, Bremen, Havre), Egypt (Alexandria) and India (Bombay).

In Liverpool futures contracts could be signed for delivery on one of the coming 11 months. These contracts were constantly regulated through weekly settlements of the debits and credits on both open and closed-out contracts. Four contracts were listed: an American contract, an “Empire and miscellaneous Growths” contract (which also included Indian cotton) and two Egyptian contracts (Howell and Watson 1938).

The cotton future contract in Liverpool prescribed the delivery of 100 bales of American Cotton net weight (equivalent to 48,000 pounds) of Fully Middling Cotton or of any grade not lower than Low-Middling. It constituted the basis of all the spot cotton prices in England (Forrester 1931). It was a true world market, providing scope for arbitrage dealing to take space, since at opening times information were available of closing prices at Bombay, at midday those at Alexandria and opening prices in the American exchanges, since Liverpool remained opened one hour after the former started business (Rees 1972: 101),

In New York the cotton future contract called for the delivery of about one hundred square bales of American cotton, 50,000 pounds, and allowed for the delivery of all grades of cotton with the value of those grades to be based upon Middling grade. The value of these different grades was provided in the Cotton Futures Act. (Hubbard 1931). Today the current standard cotton futures contract is for 50,000 pounds (100 bales or 22.68 tons) of strict low-middling grade with 1–1/16” staple length. The contract is traded for five delivery months: March, May, July, October and December.

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7 The Cotton Futures Act 1916 established an exact type and grade of cotton be given to the government upon sale at a cotton exchange.
The New York cotton future is one of the three contracts that have been continuously listed in the *Wall Street Journal* since the 1920s (Baffes and Kaltsas 2004: 158).

Specifications of grades and fixed amounts of units varied between Liverpool and New York, so differences in prices arose, besides those arising from delivery costs, which were obviously higher in Liverpool than New York (Garside 1935: 156) providing the opportunity of arbitraging between the two markets.

New York and Liverpool were very liquid markets where almost all the futures contracts were settled by offsetting transactions and very rarely settled by the delivery and receipt of cotton. According to a contemporary source: “The proportion of the contracts sold that was settled by delivery did not exceed 3 per cent for any active month during this 10-year [1927-36] period” (Howell 1939: 48).

**Wheat**

In the 1920s wheat was also a highly financialized commodity, as there were 25 futures markets in the world. The volume of wheat traded in futures contracts was 15 to 25 times the size of the wheat crop produced in the United States (Campbell 1958: 221).

The four most important wheat markets, in terms of exchanges and volumes, were the Chicago Board of Trade, Winnipeg, Buenos Aires and Liverpool.

A Liverpool wheat future contract had behind it nearly all the good milling-wheat of the United States, Canada, Argentina and Australia, and was considered in Europe as one of the main indices of the wheat position. In 1955 the price of nearby futures at Liverpool still represented the closest approximation to a “world price”, although not as closely as in the interwar period.

According to a contemporary source:

“The custom of the market is to buy and sell the futures for five separate months: March, when Australian and "Plate" wheat is well forward; May, when the St. Lawrence is reopened; July, when Indian wheat is arriving; October, when American winter wheat is on the market; and December, the end of the year. The Liverpool contract grade is understood to be milling wheat.” (Forrester 1931: 203-4).

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8 Until recently, the New York Board of Trade No. 2 Contract was the most important single price indicator for cotton in the world; no other exchange traded cotton futures contracts with sufficient liquidity (Baffes 2004). Today, the cotton futures are traded on the Intercontinental Exchange (ICE) – which merged with NYBOT in 2007 - and on the New York Mercantile Exchange (NYMEX); with the exception of trading hours, all other contract specifications are the same for the two exchanges.
To give an order of magnitude of the importance of speculation in wheat futures trading Liverpool, Rees (1972. 152) gives a figure of more that 86 million quarters of wheat future sales in 1929, while the size of import were 5 million.

Unlike Liverpool and London, in the US the futures wheat market was government regulated. During the 1930s the world grain trade faced one of the most severe crises in its history, with a spectacular fall of commodity prices and collapse of the multilateral payment system. An investigation by the Federal Trade Commission in the early 1920s resulted in the Grain Futures Act in 1922 and the establishment of the Grain Futures Administration as a division of the USDA, while the Grain Futures Act was enacted in 1936.

Chicago wheat futures contracts (the unit of transactions was 5000 bushels) were very liquid, while the cost of entering and exiting Chicago wheat contracts was low enough to make Chicago the most attractive market place in USA. “In 1936, about 7/8 of the total volume of wheat contracts was traded in the wheat pit of Chicago Board of Trade (Jones 1947: 63)

**Winnipeg:** By the early 20th century, Canada had become a major exporter of wheat. By the outbreak of the First World War, “she had averaged 13.9 per cent of the world wheat trade, but during the interwar years from 1922 to 1938 she averaged 34.7 per cent of the world trade, while producing about 7 or 8 per cent of the total world production” (Ankli 1982: 272)

**Buenos Aires:** surprisingly, there is very scant literature on the working of the Buenos Aires Futures Market, which was the first market of the kind to be established in Latin America and one of the world’s major grain markets in the interwar period. In the 1920s it became the world reference market for linseed crops. By the early 20th century the grain exchanges at Chicago, Liverpool and London began to watch the Argentine crop rather closely (Scrobie 2014).

**Tin**

The standard tin contract came into being in 1912 at the LME. In the 1920s and 1930s the LME was practically the only market for tin futures. In the 1880s and 1990s there was an active futures market in tin at the New York Metal Exchange, but by the late 1920s it had become too narrow to support hedging.

The tin market showed higher volatility than other non-ferrous market and has long been known as “erratic” (Mallory 1990: 839), stimulating the rise of cartels and government intervention in the form of buffer stocks.\(^\text{11}\)

\(^{10}\) A Tin Futures Contract (SN) is still traded on the London Metal Exchange (LME); Shanghai Futures Exchange launched a tin contract in 2014.

\(^{11}\) A succession of more than 10 international tin agreements operated from 1921 to 1985.
5. Overview of Keynes’s speculation in commodities

Commodity investments represented the bulk of Keynes’s portfolio in the 1920s. Between 1923 and 1928 the speculative activity in commodities (including his investment in options) contributed to his income by something between 55% and 65%: more than all his other activities together. Although his investment in commodities spanned over the whole of the 1930s, as from 1931 the main source of Keynes’s income (and the main cause of his losses) became shares and securities. After 1936, and up to 1945, the largest portion was represented by the capital gains deriving from securities denominated in dollars.


Besides his speculative activity, Keynes acquired full knowledge of commodity markets as a professional economist. Between 1923 and 1930 he authored a series of Memoranda for the London and Cambridge Economic Service (CWK XII) on some of the commodities he traded in (cotton, copper, tin, lead, spelter, sugar, jute, rubber, wheat) as well as a few others (nitrate, coffee, tea, petroleum, wool) that he does not seem to have traded.

The Memoranda structure followed a similar pattern for the supply of information: the level of stocks and consumption, the flow of production and the trend of prices; these were always presented with assessment of the quality and reliability of the data.

Keynes relied heavily on information relative to each individual market and commodity, weighing up the quality and reliability of that information through calculation of the relevant data, the advice of experts, and his own assessment of market conditions and of other participants’ opinions.

However, his own investment philosophy changed in the early 1930s, following heavy losses in the commodity market, the 1929 crash and possibly progress in his new theoretical developments which culminated in the General Theory. The role of informed opinion about the relevant data gave way to evaluation of market sentiment, conventions and herd behaviour. He became increasingly worried about the effect of adverse or excessively optimistic market opinions and ever more apprehensive of the dire consequences of trusting them to ensure the smooth working of the economic

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12 The records of Keynes’s dealings in commodities can be found in the Keynes Papers (KP). The available data are provided by the ledgers in which Keynes reported his transactions (KP/SE/11/2), by his correspondence with the broker Buckmaster & Moore (KP/SE/2/1-6) and, from April 1926 onwards, by the weekly statements of the Tilton Co., Ltd (KP/TC).
system, since commodities played an important role in sustaining or depressing the level of effective demand worldwide.

Is Keynes’s practice as a speculator in commodities the key to understand his views as a regulator of these markets? To provide an answer we need more research into his entire portfolio; nevertheless, some insight can be gathered from the partial viewpoint of his investment in the three commodities he traded in most: cotton, wheat and tin.

**Cotton**

Keynes dealt continuously in American cotton and sometimes in Egyptian cotton on the Liverpool market throughout the 1920s, and more sporadically in American cotton in New York and Liverpool during the 1930s. According to a recent reconstruction:

“From 1921 to 1929 Keynes’s open interest in the Liverpool market for American cotton was almost uninterruptedly long. Of the 129 positions opened during this period only 7 were short. With these investments, Keynes cumulated a net positive difference of £13,488 along the period, with a peak of £15,833 in December 1927 and a minimum of £1,288 at the beginning of his dealings in 1921”. (Naldi-Cristiano 2014).

In 1932 he went back to the Liverpool market, acquiring 4 futures. In Nov 1933 Keynes ventured into the New York Exchange Market, where he traded futures discontinuously until 1938, making some profits.

**Wheat**

Keynes traded in wheat from 1924, although discontinuously, until 1937. From 1924 to 1925 he operated in Winnipeg and Chicago - betting on reversal of the rising prices – and made substantial profits, while between 1925 and 1926 his short sales in Chicago incurred some losses. There was no exchange risk at the time, since Britain was still under the gold standard (until September 1931). Apart from a small operation in Buenos Aires a few weeks before the great crash in Wall Street, Keynes did not trade in wheat until the end of 1931, when he went long both in Liverpool and in Winnipeg, betting on an increase in prices in both markets. In 1932 he was employing a roll-over strategy which proved only partially rewarding. However, the following year he had the timing right and made a huge profit in Winnipeg. After this period of intense investment in the Liverpool and Winnipeg markets, Keynes abandoned the wheat market for two years, until July 1935. With the establishment of the Canadian Wheat Board, on 5 July 1935, Winnipeg was no longer a market available for speculation, and trading in Chicago entailed exchange risks. In 1935 and 1936 Keynes took a huge long position in Liverpool, in one instance even accepting delivery rather

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13 This reconstruction of Keynes’s investments in wheat is based on Foresti-Sanfilippo (2012).
than offsetting his futures position. In general between 1936 and 1937 he continued his roll-over strategy in Liverpool with mixed fortunes.

**Tin**

Keynes’s dealings in tin began in September 1921 and continued until 1939; tin was the major commodity (measured by the value of transactions) in his portfolio. Keynes stayed in this market longer and traded more derivatives than in any other commodity, experimenting with all the derivatives available to him at the time, and held the highest number of contracts: futures (166), call (72), put (21) BOD (15), double (14), SOD (7).

He was bullish most of the time, mainly buying BOD and call options; only in a few cases did he hedge his position by buying double options. In the period 1925-26 he associated purchase of call options with sale of put options, greatly increasing his exposure. After 1927 he did not succeed in gauging prices and thus incurred great losses, especially in the year 1928. After 1925 he also took delivery of some of his futures and stocked tin in the London Metal Exchange warehouses, thus moving part of his operations onto the spot market. At the time he was part of a private Tin Pool set up to control prices.

He was also a writer of double options (which he covered with futures), as well as put options. With his activity in the tin options Keynes bore substantial losses throughout the whole period except for a few occasions in 1922 and 1926.

In conclusion, Keynes was a truly global speculator, trading in the most important futures markets of the world, and experimenting with all the derivatives available at the time. His success was mixed. Although no conclusive assessment can be made of his performance – for which a great deal of further data collection and analysis is needed – it can be said that his success was variable in relation to the different markets and time spans, so his performance was not as “stellar” as often believed.

Keynes appears to have been an informed trader, who took great care in collecting information about the “fundamentals” of the commodities he traded. However, the frequent strategy of leveraging his long positions with a combination of futures, calls and BODs shows him as a risk-loving investor who seldom hedged his exposure in futures, and most of the time was simply long in call options. In futures markets he again employed a variety of strategies: short sales, roll-over of long positions and straddle between markets and maturities.

6. Keynes’ proposal for regulation of commodity markets

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14 The episode referred to by Moggridge (CWK XII: 61), when Keynes wanted to measure the cubic capacity of the King’s College Chapel to store wheat, relates to this period of his investment activity.
Keynes’s active engagement in speculation in commodity markets shaped his views on the reasons for the instability of these markets and the need to correct it. In the *Treatise on Money*, it is shown that conspicuous and highly uncertain costs of carrying commodities provide a strong incentive to keep stocks of primary commodities at a minimum, and that this, in turn, contributes to accelerate any incipient slump and to delay any recovery. The argument is further developed in the *General Theory*, where it is explained why the production of new capital assets, including stocks of commodities, is not profitable, and hence is interrupted, whenever their marginal efficiency falls short of the money rate of interest, the latter being kept high by the fact that money, as an asset, entails higher liquidity and lower carrying-costs than commodities. Demand and employment may be depressed by the fact that money is preferred to commodities as a store of value, since the former yields a positive return (thanks to its liquidity) while the latter yield a negative return (due to their carrying-costs). Keynes envisaged two complementary solutions to this problem: by ‘creating artificial carrying costs for money’ (CWK VII: 234); and by increasing liquidity and reducing private carrying-costs of commodities through public management of buffer stocks. In the *General Theory*, Keynes insisted on the former rather than on the latter. Two years later, he turned to buffer stocks with an article on ‘The Policy of Government Storage of Foodstuffs and Raw Materials’, and by the end of 1941 he was fully engaged in working on a scheme of international buffer stocks, the Commodity Control, drafting nine different versions between January 1942 and February 1943 The Fifth draft contains the buffer-stock plan that Keynes hoped to get through; it proposed the establishment of international organizations (named Commod Controls), which would deal in individual commodities: it would be composed by representatives of the major producing and consuming countries and managed by independent specialists. The task of each Commod Control was to fix the initial basic price at a level reflecting the existing conditions and thereafter to make the price adjust as stocks exceeded or came short of the target rate, by selling or buying at a price within 10% below or above the basic price. The finance necessary for the operations would come either from the profit arising from the difference between selling and buying prices, or by arrangements between Central Banks; alternatively, it could be through overdrafts provided by the International Clearing Union (CWK XXV: 190). Keynes’s ideas, however, did not get off the ground.

The purpose of buffer stocks was to reduce short-term fluctuations of commodity prices, allowing adjustments to long-period variations of tastes and technologies; Keynes never proposed regulation of the futures markets, probably because he felt that short-term volatility could hardly be controlled unless it were connected to long-term price stabilization. It is worth it quoting in full a long passage from the 1942 draft:

“... The reason for [the wide and rapid fluctuations in the world prices of primary products] was the frequent divergence between the supply of these commodities and the short-term *apparent* demand. The true demand for primary products is not, of
course, constant. But a progressive average with a basis of, say, three or four years would, in the great majority of cases, show a steady level with long-term trends upwards in the case of some materials and perhaps downwards in the case of others, and with foodstuffs the demand (but not the supply) is often steady even over shorter periods. The apparent international demand as shown by purchases of new supplies in world markets fluctuates more widely, since it is affected not only by fluctuations in true demand but also by the stocking and de-stocking operations both of users of raw materials and merchants whose business it is to deal in them and of speculators who enter and leave the market when they see an opportunity to make a profit. It must be the primary purpose of control to prevent these wide fluctuations and to allow trade to proceed in an orderly fashion –not of course, by fixing prices for an indefinite period, but by providing that alterations shall be made gradually in accordance with the long trend variations in true demand and the response of supply to them” (XXVII. 139, italics added).

Today’s discussion on regulation seems to focus on setting limits to financial operations, neglecting the real side and so missing an important part of the causes of the price volatility problem. This is particularly relevant since we are witnessing an expansion of the “role of investment banks beyond that of intermediaries in futures markets to direct participants, not only in derivative markets (through own account trading) but also in physical ones” (Gibbon 2013)

As aptly noted by a commentator: “Without increased transparency in physical markets, more information on financial transactions would not address the root issue. Given the tight relation of cash and futures commodity markets, regulators and market actors must look at ways to improve information flows on supply, demand, inventories, reserves and prices of commodities” (Cinquegrana 2008: 19).

7. Concluding Remarks

The financialization of commodities goes a long way back in time, and a true understanding of how this phenomenon has evolved requires full historical investigation into the working of commodity markets, integrating analysis of futures and spot prices, open interests and other quantitative indicators with the evolution of rules, practices and regulation.

Commodity markets have always exhibited volatility, from which producers and consumers of commodities seek protection through hedging in futures markets. The counterparts are speculators who are willing to buy and sell the derivatives on the commodities for which hedging is sought; they are therefore essential for the liquidity and thus the efficacy of these markets.

The problem arises whenever the supply and demand of derivatives rather than offering a stabilizing anchor to cash prices tend to increase their volatility. The
question arises as to whether margins and limits to speculative activity can be the only regulatory response, besides enforcing transparency in the contracts and instruments.

The literature shows that a) such regulatory measures are very difficult to enforce; b) that price volatility can be found in a variety of commodity markets and circumstances, and no clear-cut and unambiguous results emerge from empirical investigations (see Gilbert 2008, Irwin and Sanders 2012).

Historical investigation into the working of financial markets can help afford us better insights, since the financialization of commodities is no new phenomenon – it can be traced back to earlier periods of time – nor is the awareness of its importance

By making use of an exceptional set of documents kept at King’s College Cambridge, consisting of the records of Keynes’s dealings in several commodities from 1921-1939, we can have a better understanding of how a shrewd, informed and clever speculator like Keynes was able to operate in them. This paper is a companion piece to others (Fantacci et al. 2010,2012 and Marcuzzo-Sanfilippo 2014) that have pursued this investigation, and hopefully has enabled us to form a clear picture of both Keynes’s activity and the working of the commodity futures markets.

Keynes was not only a speculator, but also a reformer who had a vision of how to curb volatility in commodity prices. His proposal goes in the direction of centrally adjusting supply and demand through an International Organization which would be in charge of a Buffer Stock scheme.

The literature has been critical of previous experiments in buffer stocks. The case of Tin, in particular, has been studied extensively and various reasons were given for its failure in 1985-86 (See for instance Yamey 1992).

Perhaps his idea appears as impractical and unfeasible now as it did to his contemporaries in the mid 1940s, but in the face of many failures and delays in today’s regulatory activity it may again provide food for thought.

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Appendix 1

Liverpool\textsuperscript{15}: The Liverpool commodity exchanges evolved from trade associations which were responsible for their establishment, such as the Cotton Trade Association\textsuperscript{16} and Corn Trade Association, which developed rules as to the contracts to be used and how transactions were to be effected. There were two separates Clearing Houses for Cotton and for Corn.

The Baltic Exchange and Corn Exchanges in London\textsuperscript{17}: the commodity exchanges evolved from trade associations; the most important were the Vegetable Oils Brokers Association and the London Corn Trade association which established the London Grain Futures Association on the floor of the Baltic Exchange in 1929. Grain futures were not generally traded in London, as merchants preferred Liverpool for such transactions.\textsuperscript{18}

London Commercial Sale Rooms\textsuperscript{19}: the Sugar Association of London, the Coffee Trade of London Association, the Rubber association of London carried out their dealings in these commodities on the premises of Mincing Lane. The London Produce Clearing House\textsuperscript{20} was created to clear futures dealings in coffee and sugar. Later it also cleared futures transactions in other commodities, such as wheat, maize, pepper, rubber, raw silk, silver and indigo.

\textsuperscript{15} From October 1939 through November 1953, the Liverpool market did not operate. The futures trading in wheat resumed on Dec 1, 1953 and was dissolved in 1964.

\textsuperscript{16} In December 2004, the Liverpool Cotton Association became the International Cotton Association, still based at the Cotton Exchange in Liverpool.

\textsuperscript{17} It became BIFFEX in 1985 trading futures contracts with settlement based on the Baltic Freight Index.

\textsuperscript{18} Both markets were closed from 1939 to 1953 as a result of the Second World War and its aftermath. When reopened, in 1954, they dealt exclusively in barley and maize. In 1970, the London Grain Futures Association was wound up and its functions taken over by the London Corn Trade Association.

\textsuperscript{19} The successor to the London Commercial Sale Rooms was the London Commodity Exchange which emerged after the war (1954); it was conceived as an umbrella organization bringing together the major soft commodity futures market associations. In 1987 it was re-launched as London FOX (The futures and options exchange). LCE merged with BIFFEX (Baltic International Freight Futures Exchange) in 1991. In 1996 it merged with the London International Financial Futures Exchange (Liffe, established in 1982), trading “soft” and agricultural commodities as well as financial derivatives. Euronext acquired LIFFE in 2002, and were then in turn taken over by NYSE in 2007, to form NYSE Euronext. Then Intercontinental Exchange purchased NYSE Euronext in 2013.

\textsuperscript{20} “After World War II its rules acquired a general character to cover any commodity where the relevant trade association operating a futures market had an arrangement with it” (Cranston 2007: 14). It was renamed London Clearing House in the 1980s.
London Metal Exchange (LME) the most important organized world market for non-ferrous metals, namely tin, copper, lead and spelter. Its standards and prices strongly dominated world trade in these commodities. The LME did not have a Clearing House and used a form of Ring settlement (Cranston 2007: 20). Many features of the LME are still present today.\footnote{In 2012 the LME was bought by Hong Kong Exchanges & Clearing.}

Chicago Board of Trade (CBOT):\footnote{After World War II the CBOT continued to trade in agricultural commodities, but in the 1970s it began dealing in financial instruments (such as futures on Government National Mortgage Association certificates, or Ginnie Maes,, the U.S. Treasury bonds). In 2007, the Board of Trade merged with the Chicago Mercantile Exchange to become the CME Group. The New York Mercantile Exchange was acquired by the CME Group in 2008.} trading in futures wheat, maize, oats, rye and lard. The most important futures market in the US. In 1926 a Clearing Corporation was created by the Department of Agriculture to protect futures contract dealings. Pit trading was the prevailing system of negotiations.

New York Cotton Exchange:\footnote{During the 1960s and early 1970s NYCE exhibited a very low turnover and regained prominence only by the mid 1970s. In June 2004, together with other exchanges it merged with the Coffee, Sugar and Cocoa Exchange to form the New York Board of Trade. (NYBOT)} this was the leading cotton market in the US, with an established Clearing House and a Certificate System. Under this system, a certificate stipulating the grades of cotton became good for delivery, passing from hand to hand like a stock certificate.

Winnipeg Grain & Produce Exchange: futures contracts were traded in wheat, oats, rye and barley.\footnote{In the 1970s and 1980s futures in gold, silver and Government bonds and Treasury bills were added. Until December 2007 futures were traded on the platform of the Chicago Board of Trade. Since September 2007 the WCE has been a subsidiary of the Intercontinental Exchange (ICE).} At the turn of the 20th century the Winnipeg wheat future contract was one of the key wheat markets in the world. When the Canadian Wheat Board was established in 1935, futures trading in wheat was abolished (Ankli 1982: 279).

Buenos Aires Grain Futures Exchange: set a standard for wheat, corn, linseed and oats traded in the pit, with the backing of the Grain Exporters Center, the Grain Trade Association, and the Ministry of Agriculture.
Appendix 2

Futures exchanges until the 1990s

* The Baltic International Freight Futures Exchange
  The International Petroleum Exchange London

* The London Cocoa Terminal Market

* The London Coffee Terminal Market

** The London Gold Futures Market

* The London Grain Futures Market

* The London Meat Futures Market
  The London Metal Exchange

* The London Potato Futures Market
  The London Rubber Market

* The London Soya Bean Meal Futures Market

* The London Sugar Terminal Market

** The London Wool Terminal Market
  The London Gold Market
  The London Silver Market

The Chicago Mercantile Exchange
The Philadelphia Board of Trade
The New York Mercantile Exchange
The Chicago Board of Trade
The Montreal Exchange
The Mid America Commodity Exchange
The Hong Kong Futures Exchange
The Coffee, Sugar and Cocoa Exchange inc, New York
The Commodity Exchange, Inc (COMEX)
The Citrus Associates of the New York Cotton Exchange, Inc
The New York Cotton Exchange
The Sydney Futures Exchange Ltd
The London International Financial Futures and Options Exchange
London FOX
OM London
OM Stockholm AB

* From January 1991 these exchanges were part of the London FOX. This in turn merged into the London International Futures and Options Exchange in 1996.

** These exchanges no longer exist

Source: http://www.hmrc.gov.uk/manuals/cgmanual/CG56120.htm

Appendix 3

Commodity Market Regulations

United States

1921 – The Future Trading Act providing for the regulation of futures trading in grain (corn, wheat, oats, rye, etc.)

1922 - The Grain Future Act similar to Future Trading Act

1936 – The Commodity Exchange Act extending Federal regulation to a list of enumerated commodities that includes cotton, rice, mill feeds, butter, eggs, and Irish potatoes, as well as grains.

1938 – The Commodity Exchange Commission promulgates the first Federal speculative position limits for futures contracts in grains.


2000 - Commodity Futures Modernization Act, allowing investment banks and other financial actors to speculate in commodities

2010 – The Dodd-Frank Wall Street Reform and Consumer Protection Act, giving CFCT power to write rules to regulate the swaps marketplace.
Great Britain

1986 - Financial Services Act [FSA]

2000  Financial Services and Markets Act, changes in progress