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Commodity basket standards for currencies from the 1930s to the 21st century: Keynes, Graham, Kaldor, Largentaye and Lietaer

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Abstract

Central to John Maynard Keynes's original Bretton Woods proposal was an International Clearing Union (ICU) that would issue a new international reserve currency by fiat called *Bancor*, to resolve global imbalances. Among other social functions, the ICU would finance commodity stockpiles to stabilize individual commodity prices managed by another international agency, the International Commodity Control (ICC), thereby creating semi-automatic counter cyclical international monetary policy to smooth the world business cycle. Another counter-proposal was offered by Benjamin and Frank Graham to create an additional international reserve currency that would be fully backed by buffer stocks of raw materials in fixed proportions corresponding to their weight in world production and trade. By stabilizing this commodity currency unit, the Grahams' plan offered automatic counter-cyclical international monetary policy – an expansion of trade reserves and absorption of storable commodities into buffer stocks when world demand fell, avoiding a commodity glut and vice versa. Twenty years later, in 1964, Nicholas Kaldor whole heartedly adopted the Grahams' plan when he argued that a commodity reserve currency (CRC) would provide a policy lever to lift balance of payments constraints, in particular for commodity producing nations. Independently from the three previous economists, Jean de Largentaye, the French Executive Director at the IMF (1946-1964) devised a similar plan called the *Etalon marchandises*. At the time of their authorship, all four proposals were stifled by more powerful political interests. At the beginning of the 21st century, Bernard Lietaer proposed a commodity reserve currency which would facilitate the realisation of sustainability goals. This paper offers a historical review of these ideas which not only fit into Keynes's overall vision for the post war institutional framework but also opens the path for a monetary solution to 21st century sustainable development challenges.

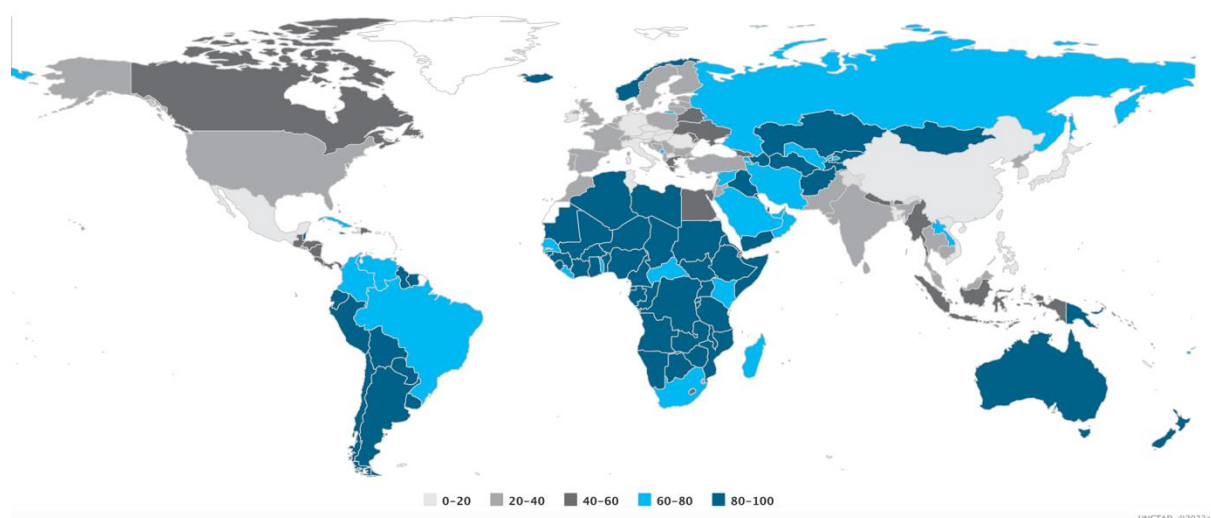
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Key Words: Keynes, Benjamin Graham, Kaldor, Jean de Largentaye, Lietaer, commodity buffer stocks, international monetary reform, commodity reserve currency, commodity stabilization.

Volatility of primary commodity prices has always exerted a destabilizing effect on commodity dependent (CD) exporting nations' terms of trade and balances of payments (the blue nations in Figure 1). CD nations' trade and financial accounts are tied to non-CD accounts, the latter typified by manufacture export- oriented countries that run a trade surplus, or operate as financial centres and recycle capital flows through CD nations¹.

Utilizing the dichotomy between CD and non-CD nations, where non-CD national demand drives commodity prices,² we explain how externalities of the global macroeconomic system impact international commodity markets and their suppliers. Various economists throughout the past 100 years have seen commodity buffer stocks as a way to manage international trade and promote financial cohesion compatible with global economic growth.

Figure 1: World Commodity Export Dependence 2019-21.



Source: The state of commodity dependence 2023. A country is considered to be commodity export dependent when more than 60 per cent of its total merchandise exports are composed of primary commodities (agriculture, energy, or mining).

High global demand causes non-oil commodity prices to be high (Erten and Ocampo 2013), which will boost export returns for CD nations, trigger their domestic production, promote capital inflow, allow for more investment in home industries, expand government spending and generally lead to better living standards for the local population. Alleviating balance of payments constraints, CDs can import more manufactured goods and expect large capital inflows, raising central bank foreign reserves. When commodity prices decline capital inflow can come to a “sudden stop” (Eichengreen and Gupta 2016) with immediate constraints on the importation of capital goods. Along with deteriorating terms of trade, national reserves will be drained, interest rates will need to rise, investment and economic growth will suffer (United Nations 2023). To smooth out such ramifications of commodity price volatility economists such as Frankel and Saiki (2002) have advocated for CD countries to anchor their exchange rate to the price of their export commodities. An alternative multi-state solution is to recognize the interaction between manufacturing and primary commodity exporting nations and

¹ The best example is the petro-dollar recycling post 1971 with the reinvestment of crude oil export revenue denominated in dollars, into USD assets. For more on the recycling of US capital flows see (D'Arista and Kokurt 2009).

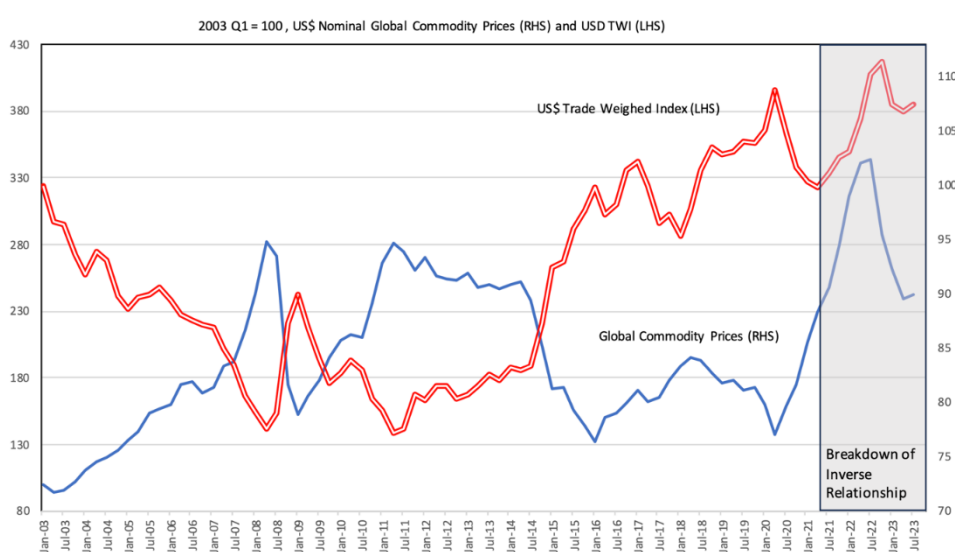
² Erten and Ocampo (2013) show that non-oil commodities cycles are determined by global demand rather than supply side influences.

that the key currency or monetary standard in which these commodities and reserves are priced plays a major role.

Rising commodity prices, especially oil, will often lead to inflationary pressures and in response, government authorities will implement monetary and fiscal deflationary measures. Restraints on wage-earners' claims, reduced government deficits, or higher interest rates are aimed at lower domestic demand, and if done in unison, will reduce global demand for commodities. Higher interest rates relative to other countries will raise exchange rates and reduce inflationary cost push from commodities that are imported.

When US authorities tighten monetary policy in response to high commodity prices, the appreciation of the dollar will in turn reduce real commodity prices and have a so-called stabilizing effect. This is a consequence of the highly competitive international commodity markets where prices are determined by marginal cost of production in their country of origin. A stronger dollar (with the same amount of global demand) will put downward pressure on the USD price of commodities until it is again priced at country-of-origin costs. We can see the inverse relationship between the USD trade weighted index (TWI) and USD commodity prices in Figure 2, which has held for over 40 years since floating exchange rates were instituted. However, since Russia invaded the Ukraine and a flight to the US by risk averse actors, combined with the US becoming a net exporter of energy, there has been a breakdown of the negative relationship between rising commodity prices and the USD exchange rate. Hofmann *et al* (2023) explains that the structural cause is the potential end of petro-dollar recycling with the US emerging as a net energy exporter: "In 2022 the United States exported half of its petroleum production, up from 10% in the 1990s, and became the world's largest liquified natural gas exporter, surpassing Qatar and Australia" (Hofmann *et al* 2023, p.2). This means that higher energy prices now correspond to an improvement in the US terms of trade, and fighting cost push commodity inflation with an appreciation of the currency might have no impact on domestic energy prices.

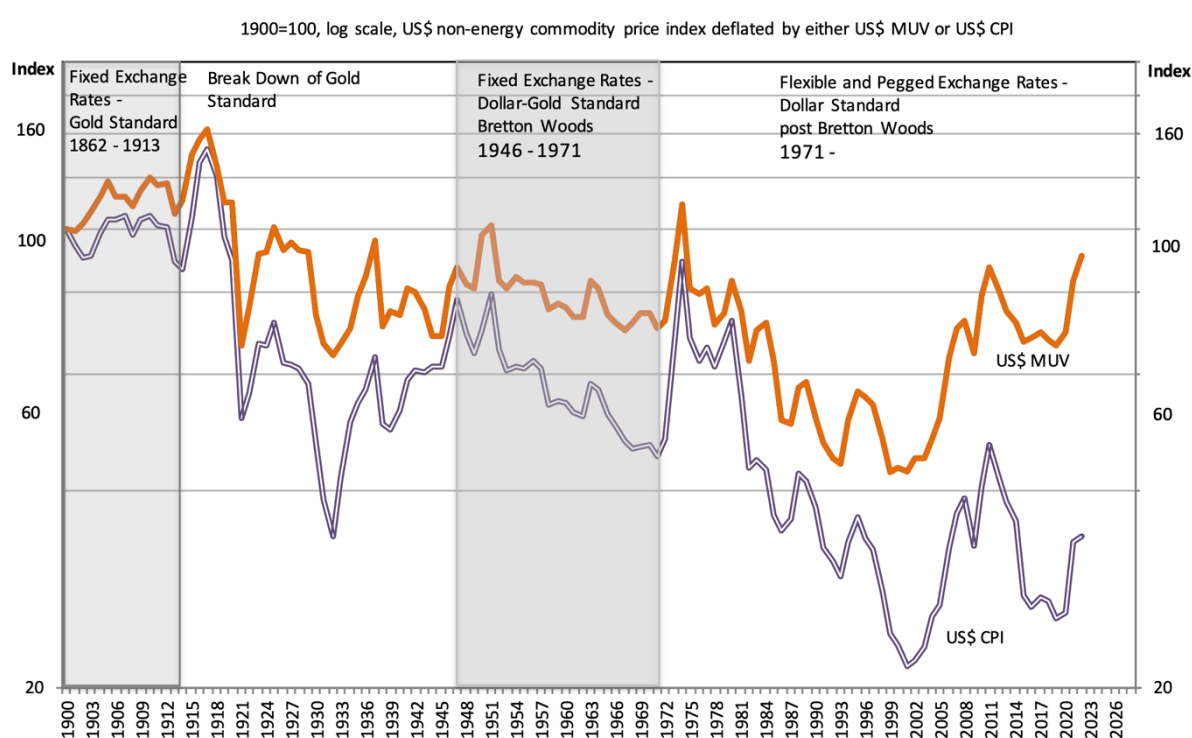
Figure 2: Inverse Co-movement of Global Commodity Prices and the USD TWI (2003-2023)



Sources for TWI: Board of Governors of the Federal Reserve System (US), *Trade Weighted U.S. Dollar Index: Broad, Goods (DISCONTINUED)* [TWEXB] and *Nominal Broad U.S. Dollar Index* [DTWEXBGS], retrieved from FRED, Federal Reserve Bank of St. Louis.
Source for Commodity Prices: International Monetary Fund, *Global Price Index of All Commodities* [PALLFNINDEXQ], retrieved from FRED, Federal Reserve Bank of St.

Figure 3 shows long run (1900-2023) real commodity prices across the different monetary regimes. The secular decline in the terms of trade hypothesized by Singer and Prebisch appears evident in the bottom line which is the real price of an index of non-oil commodities, deflated by the US CPI. However, a more pertinent terms of trade measure is the top line: commodities to manufacturing units. This is evidence that during three long periods—under the gold standard, i.e. before 1914, during the interwar period (1920-1939) and during the 26 years after WWII (1945-1971), commodity prices were more stable than in the following 50 years (1972-2022) after the dollar convertibility into gold was abandoned in 1971. A stable international monetary standard can stabilize real primary commodity prices, and is a prerequisite for a steady terms of trade between CD and non-CD nations (Ussher 2009, D’Arista 2009).

Figure 3: Long Run Real Non-Fuel Commodity Prices (1900-2023)



Sources: Grilli and Yang (1988) commodity price index is updated by Pfaffenzeller *et al* (2007), and the World Bank Commodity Price Data. MUV-G5 deflator up until 1988, and MUV-G15 post 1988. MUV is the unit value index in U.S. dollar terms of manufactures exported from G5- France, Japan, UK, US, and Germany; G15 adds Brazil, Canada, China, India, Italy, Mexico, Republic of Korea, South Africa, Spain, and Thailand). US\$ CPI deflator from Minneapolis Federal Reserve.

The monetary standard in which these commodities are priced plays a major role. For a long period until WWI, most of world trade (where commodities were by far the largest component) was priced in terms of Sterling under the gold standard. Dramatic efforts to maintain the gold standard for both Sterling and US dollar in the 1920s, but at too high a rate, led to the great depression of the 1930s, protectionism and competitive devaluations (see Ussher *et al* 2015).

At the Bretton Woods conference in July 1944, the 44 national delegations signed the international agreement whereby the gold exchange standard (GES)³ officially became the

³ The gold-exchange standard (GES) was mentioned by Keynes in his book *Indian Currency and Finance* (1913) as a monetary standard for foreign payments. In the case of India, at the time member of the British Empire, the GES was meant to alleviate

official international monetary standard, allowing countries to hold reserves in USDs or in gold. After a transitional period, every member country would ensure fixed exchange rates and convertibility of its currency either into gold or into US dollars that were convertible into gold at the fixed price of 35 ounces to the dollar. Despite or, rather due to capital controls, this period 1946-1971 is known as the ‘Golden Age’ of capitalism where stability in the terms of trade between manufacturers in the global North and commodity producers in the global South (see the upper line in Figure 3 for commodity prices relative to manufactured goods) allowed for a period of relative balance of payments equilibrium and balanced global growth.

While the US dollar as a world reserve currency injected the necessary liquidity through foreign direct investment and loans, as a consequence, it also moved the US economy from a manufacturing oriented one with a trade surplus to a financial oriented one with a growing trade deficit and an over-valued exchange rate. This led to the Bretton Woods monetary system’s demise – the gold exchange standard stealthily morphing into the dollar standard. The American dollar became *de facto* the major monetary standard for international trade and financial transactions – which led to the problem of international global imbalances (see D’Arista 2009) deficit and over-valued exchange rate..

Nevertheless, as shown by Figure 3, a commodity price index -bottom line- deflated by a manufactured unit value index (MUV)- upper line- infers that a stable international monetary standard can stabilize real primary commodity prices. It would be a prerequisite for steady terms of trade between CD and non-CD nations (Ussher 2009, D’Arista 2009).

Forty-three years later we remain in a non-system with no real anchor to the US Dollar standard, floating exchange rates, the US acting as the world’s banker – with a strong dollar policy, its own growing financialization, high consumption and private debt.

For developing countries and developed countries alike, the issue of an appropriate international monetary standard is paramount today just as it was when the Bretton Woods system was founded, in 1944. This sentiment was summarized in 2008 by China’s Central Bank Governor who questioned the fact that the dollar, the US’s national credit currency – as opposed to a commodity currency- which wasn’t backed by any real assets, was also used, first, as an international reserve currency, secondly as an official unit of account, and finally as a means of payment for goods and financial global transactions. (Zhou 2009).

J.M. Keynes, Benjamin Graham and Nicholas Kaldor, three prominent economists were among several that saw early on how a key national reserve currency with no ‘standard of value’ would play out and had advocated for an international basket of primary commodities to back a new world reserve currency. Primary commodity buffer stocks would provision the transition from primary to industrial production for all countries, and anchor exchange rates or terms of trade between countries. Lesser-known economists, such as Jean de Largentaye and Bernard Lietaer, also advocated for a commodity basket standard to stabilize terms of trade, anchor the international monetary system, and recognize the limits to material growth on our planet. Let

the gold standard constraint on domestic demand as the national currency -the rupee which was backed by silver - was supposed to be convertible into gold. Under a GES regime, the only constraint would have been a fixed exchange rate between the rupee and the sterling pound convertible into gold. The same GES rule was adopted at Bretton Woods in 1944, the US dollar, convertible into gold, playing the same role as the Sterling under the British Empire.

us now see what these five economists -no longer alive- had to say about what Graham called a “groceries first” proposal.

The first section of this paper considers John Maynard Keynes’s plan, which actually, as his 1941-1942 writings discovered in the 1970s revealed, had two distinct institutions – an international central bank (International Clearing Union) that issued an international currency (called *bancor*) and an international agency, International Commodity Control (ICC, usually called *Commod⁴ Control*) aiming at stabilizing individual commodity prices. The second section summarizes Benjamin Graham’s plan where his international central bank is the ICC in charge of stabilizing an index of commodity prices through open market operations. The stockpile of his basket of commodities fully backs the new international monetary standard (or unit), the Commodity Reserve Currency (CRC), similar to how the gold standard was supposed to operate, but for the purpose of economic expansion rather than inflationary discipline. The third section sets out Nicholas Kaldor’s 1964 UNCTAD⁵ scheme which took points from Graham’s proposal, arguing that a commodity reserve standard could stabilize the terms of trade between commodity and manufacture producing countries.

The fourth section shows how Largentaye, the French IMF executive director (1946-1964) independently from Keynes but influenced by Graham, designed a commodity reserve currency as a substitute for the US dollar standard. The last section briefly brings in Lietaer’s 2012 version of his commodity reserve currency (*terra*), which, as he argues, is necessary to fulfil sustainable objectives on planet Earth.

The paper concludes that creating institutions similar to the *International Clearing Union* and *International Commodity Control* should still inspire research in the 21st century for a better international monetary system geared towards a balancing of production of material goods to their limits of material growth and coordinating material production and growth between countries so as to jointly and fairly meet the sustainability challenges of our time.

I. John Maynard Keynes

In his 1941 proposal for international monetary reform at Bretton Woods, Keynes had envisaged several postwar institutions including an International Clearing Union (ICU) and central bank that would issue by fiat an international reserve which he called *Bancor*, denominated in units of gold; in addition, he envisaged an International Commodity Control (ICC, or *Commod Control*) to manage international commodity buffer stocks (Keynes 1941).

Keynes elaborated on the role of the *International Commodity Control* in a draft a year later in 1942, published in 1974, twenty-eight years after his death in 1946, entitled “The International Control of Raw Materials” (Keynes 1974). His plan consisted of individual commodity buffer stock schemes to stabilize *Bancor* and thus Sterling prices of internationally

⁴ Where “Commod” was the generic term for an individual commodity. Representatives of the governments of the leading producing and consuming nations were represented at the International Commodity Control’s board, though the management of the buffer stocks was entrusted to independent experts

⁵ UNCTAD: United Nations Conference on Trade and Development

traded raw materials over the short run at the expected long run cost of the most efficient producers. He would allow for gradual changes over the longer run to balance supply and demand and support a steady rate of expansion by the cheaper-cost producers. While the international commodity buffer stock plan was never seriously debated outside British government circles, due to opposition to such a degree of market intervention, Keynes and some of his fellow economists (such as Roy Harrod and Dennis Robertson, see Kaldor 1983, p. 243) regarded it as an issue of utmost importance. They believed it would introduce an automatic international counter cyclical macro policy, helping -to secure “stability and prosperity in the post-war world”, otherwise missing from (his more famous) *International Clearing Union*. Keynes also saw it as an answer to Britain’s growing war debts, trade deficits and sterling demise through trade expansion with its colonies (Keynes 1938).⁶

Keynes’s *International Clearing Union* was to be the international central bank that supported his plans for global governance and commodity buffer stocks, designed as an expansionist, rather than a contractionary, pressure on world trade. *The International Clearing Union* was to be a *lender of last resort* in *Bancor* and could put a symmetric burden on both deficit and surplus countries to resolve imbalances and avoid the deflationary bias that occurred under the gold standard where reserves were scarce due to lack of gold production and its hoarding.⁷ All international trade would be measured in *Bancor*, a money unit of account, which was to be held only by central banks. Success in balancing deficit and surplus reserves was through member cooperation and agreement to automatic rules and penalties.⁸ The *International Clearing Union* would impose penalties on trade surplus and deficit countries and offer strong incentives for surplus countries to spend reserves held in excess of their quota. Exchange rates would for the most part be fixed with capital controls, although open to adjustment to equate wage efficiencies across countries and balance trade.

Alternatively, the *International Commodity Control* would offer an automatic counter cyclical injection or destruction of liquidity through the stabilization of commodity prices, financed by an overdraft from the *International Clearing Union*. The *International Commodity Control*, with its individual buffer stocks, would stand ready to buy or sell commodities if prices

⁶ Keynes was originally encouraged to create an international commodity fund for Bretton Woods by Roy Harrod who in 1939 also promoted the work of L. St Clare Grondona who advocated commodity buffer stocks as a tool of macroeconomic policy, as early as 1924 and as late as 1975 (see Grondona 1975, p.9).

⁷ In contrast the resulting Bretton Woods institutions, the International Monetary Fund (IMF) and the World Bank (WB) were much narrower in their macroeconomic ambitions and never became central to the international payment and settlement system nor a means by which to counter global imbalances. Skidelsky suggests that this is due to the difference in opinions between America and Britain on the breakdown of the gold standard in 1931. The British saw it as a refusal by surplus countries to spend their surpluses – e.g. the United States and France had a ‘liquidity preference’ for gold. Whereas the Americans saw it as the lack of monetary discipline of deficit countries, such as those in Latin America (Skidelsky 2005, p.21).

⁸ Countries would be required to adopt a fixed exchange rate but could apply to the ICU for modification. In Keynes’s early 1941 versions, the current account quota limit for both deficit and surplus countries was (total imports + total exports)/2 for a year. (There was no limit on surplus countries in the latter 1943 proposal (see Moggridge 1980)). Interest was charged at 1% on credit or debit *Bancor* balances in excess of 25% of quota on average. This increased to 2% when 50% of quota is reached. However, any member state in deficit could borrow from a surplus state, and then both would avoid these expenses. A deficit country that is allowed to increase its quota by more than 50% may also be required to devalue its currency. A deficit greater than 75% will be declared in default and no longer have access to its *Bancor* account at the ICU. A surplus country in excess of 50% will have to either expand its domestic credit and demand, appreciate its currency in terms of *Bancor*, increase money wages, reduce excess tariffs on imports, offer international loans to developing countries and/or have their excess confiscated.

fell or rose more than 10 percent below or above the long run fundamental price (i.e. the long run cost of the most efficient producers in *Bancor*). Stabilizing the short run commodity cycle would stabilize export income of commodity producing countries and thereby their imports from the rest of the world, thus supporting trade and adequate world effective demand during a world slump.

At present a falling off in effective demand in the industrial consuming centres causes a price collapse which means a corresponding break in the level of incomes and of effective demand in the raw material producing centres, with a further adverse reaction, by repercussion, on effective demand in the industrial centres; and so, in the familiar way, the slump proceeds from bad to worse. And when the recovery comes, the rebound to excessive demand through the stimulus of inflated prices promotes, in the same evil manner, the excesses of the boom (Keynes [1942](1974), CW, 1980 vol XXVII p. 121).

Not only could an *International Clearing Union* inject new liquidity, its financing of commodity buffer stocks would remove the problem of cost and who pays – pooling the burden of carrying stocks and establishing the success of the program. Guaranteed, unlimited and external financing from an ICU would render a producing country's primary commodities always liquid.

Keynes argued that *International Commodity Control* offered what he thought- probably too optimistically- an easy-to-implement policy instrument for stabilizing international commodity prices:

For we have at our disposal a weapon capable of producing large effects by rapid action, and of operating in the negative as well as in the positive direction, so that it can function as a stabilising factor both ways. By taking up or by releasing stocks, the complex of Commodity Controls can operate in both directions on a scale and with an immediacy which is quite impossible for projects of public works...Buffer stock controls to deal with the epidemic of intermittent effective demand are therefore the perfect complement of development organisations (or international T.V.A.) to offset a deficiency of effective demand which seems to be endemic. (Ibid p. 121-122).

Keynes's proposal for individual international commodity buffer stocks to stabilize commodity *Bancor* prices within a 20 percent price range, would still allow speculation and competition between commodity buyers, sellers and middle men within this range.

Keynes emphasized that this was perhaps the only scheme which could offer "free and equal access for all countries alike to the sources of supply of raw materials" (Ibid p.129) especially in a time of crisis. The private storage of commodities did not smooth commodity prices because there was no market norm to anchor commodity prices. Traders were subject to "herd behaviour". Private storage was also limited due to carrying charges such as backwardation, interest, insurance and warehouse costs:

The competitive system abhors the existence of stocks, with as strong a reflex as nature abhors a vacuum, because stocks yield a negative return in terms of themselves. It is ready without remorse to tear the structure of output to pieces rather than admit them, and in the effort to rid itself of them (Keynes (1938, pp. 449).

In his Bretton Woods writings, Keynes always had *Bancor* as a fiat currency fixed in terms of gold, but left open how gold prices themselves should be managed: "what, in the long run the world may decide to do with gold is another matter" (Keynes 1941, pp.84-85). His own

preference for managing gold prices had been clearly shown eleven years prior. Keynes, in the second volume of *A Treatise on Money* had proposed reforming the gold standard by managing its value - stabilizing the long period trend of gold via a supranational central bank issuing its own supranational currency - to conform to an index of 62 standardized commodities, weighted in terms of world output (Keynes 1930, pp.351-352). Since 90 percent of gold monetary stocks were held by central banks at the time, he believed it would be simple to peg the price of gold to such a 'tabular standard.' In this discussion there was no suggestion of needing to store commodities. Rather a supranational bank that issued money backed by gold could fix the value of gold to the 'tabular standard' in effect only indirectly redeeming gold into the basket of commodities.⁹

In 1943, following his *Bancor* proposal, Keynes responded to an article where Hayek (1943) praised the *Commodity Reserve Currency* international monetary reform proposal of Benjamin and Frank Graham (see next section). The Grahams were proposing the stabilization of an index of commodities by storing a basket of commodities and using this to directly back the new international reserve. Keynes warned that backing a reserve with commodities might make it overly rigid and not elastic enough in its supply, thus having similar traits to gold and its tendency to create deflation. He was also nervous about the degree to which sovereign policy would be constrained under such a scheme e.g. if exchange rates were pegged to the *Commodity Reserve Currency* even when wage inflation was rampant. He also felt that individual commodity prices may not be stabilized by stabilizing the index. These concerns, except the last, were addressed by Frank Graham (1944) and Benjamin Graham (1944, pp.173-175) making clear that: the supply of *Commodity Reserve Currency* was indeed endogenous and not scarce; that unlike gold, rising commodity prices would lead to rising wholesale prices through cost-push factors though not necessarily in parallel with wages and final prices; and that exchange rates could be adjusted and even flexible allowing for efficiency wages to be equated across countries. Keynes (1944) seemed satisfied with these answers. He basically followed up with an apology stating that he had been overly suspicious given Hayek's strong endorsement. However, he remained skeptical of the political viability of a *Commodity Reserve Currency*:

I have no quarrel with a *tabular standard* as being intrinsically more sensible than gold. My own sympathies have always fallen that way. I hope the world will come to some version of it some time. But the opinion I was expressing was on the level of contemporary practical policy; and on that level I do not feel that this is the next urgent thing or that other measures should be risked or postponed for the sake of it.... The right way to approach the tabular standard is to evolve a technique and to accustom men's minds to the idea through international buffer stocks. When we have thoroughly mastered the technique of these, which is sufficiently difficult without the further complications of the *tabular standard* and the oppositions and prejudices which this must overcome, it will be time enough to think again" (Keynes 1944, pp. 229-230, emphasis added).

To conclude this section on Keynes's 1941 international commodity standard let us list the four goals of his *International Commodity Control* (1941) and earlier tabular standard (1930):

⁹ Instead of gold being redeemed for the 62 commodities, it is redeemed in an alternative asset (e.g. supranational bonds) at the current 62 commodity basket valuation - this is very similar to Jevon's monetary scheme (1876, ch.XXV).

-Stabilization of excessively volatile commodity prices by either making the supply of commodities liquid through independent buffer stocks, or stabilization of an index due to monetary expansion or contraction.

-An international central bank with an international reserve currency that offers an automatic non-discretionary counter cyclical policy.

- Fixed but adjustable exchange rates offering some independence to individual countries for their domestic monetary, fiscal and trade policies

- Expansion of world growth by raising the incomes of *commodity dependent developing countries* and commodity producers.

II. Benjamin Graham

Keynes was well aware of Benjamin Graham's (1937) *Storage and Stability* book, which laid out a national plan to back the US currency with a basket of commodities and stabilize aggregated commodity prices within a 10 percent range.¹⁰ Graham's book was based on his 1933 article that caught the attention of Frank Graham, an unrelated and highly respected Princeton economist, who independently made a similar proposal the same year for stabilizing aggregate demand by a government authority purchasing manufactures of standard, storable goods at cost, during a slump and paying for them with new issues of money. After discovering each other's position in 1933, Frank Graham become a convert to Benjamin Graham's proposal of storing just homogeneous storable raw materials which he found to be "distinctly superior" (F. Graham 1949, p.94). B. Graham extended this domestic currency plan to an *international commodity reserve currency* in 1944 with the publication of *World Commodities and World Currency*.

In 1944 B. Graham formed the *Committee for Economic Stability*, which included a number of other academics, Wall Street practitioners, and government policy makers, making up 109 people. This group formally signed onto a proposal written by Frank and Benjamin Graham to the Bretton Woods conference that a *commodity reserve currency* be added to the projected International Monetary Fund (IMF) charter.¹¹ Under the originally proposed Keynes and White format, the IMF would operate in two different kinds of international money: *Bancor* and gold. Under Graham's plan, the IMF would operate the buffer stock and additionally issue *commodity reserve currencies*, 100 percent backed by commodities, to stabilize the commodity price index in terms of *Bancor*, a weight of gold, or US dollars – whichever the IMF chose (Graham 1944, p.84). Along with many other proposals existing on the sidelines of the Bretton Woods meetings, the *commodity reserve currency* proposal was given scant attention.

Like Keynes, Benjamin Graham, during the world recession of the 1930s, had seen the waste and irony that came with the restriction and even destruction of excess commodity

¹⁰ Graham (1897-1976) is well known for his microeconomic advice to investors with his book on fundamental investing, *Security Analysis* (1934) co-authored with David Dodd, still known as the bible of Wall Street. However, his macroeconomic advice to policy makers is today largely unknown - *Storage and Stability* (1937) and *World Commodities and World Currency* (1944). Both his micro and macro positions emphasize the intrinsic value of assets behind short run market prices. Graham distributed his *Storage and Stability* book widely at his own expense and surely sent a copy to Keynes.(L.U.)

¹¹ Irving Kahn provided the unpublished *Committee for Economic Stability* (Graham and Graham 1944) document to Leanne Ussher. Kahn was a signature to this commodity reserve currency proposal to Bretton Woods and remained a tireless advocate of Graham's proposal for commodity buffer stocks up until his death in 2015 (see <http://bufferstock.org>). (L.U.)

supplies in part due to the strong liquidity preference of the market. The problem was a lack of effective demand rather than a surplus of supplies:

[I]f surplus stocks do operate as a national liability rather than an asset, the fault must lie in the functioning of the business machine and not in any inherent viciousness of the surplus itself...Some means must be found to restore the Goddess of Plenty to the role of benefactress-in-chief that was hers without question under a simpler economy. (B. Graham 1937, pp.16-17)

The originality of Graham's plan, compared to traditional commodity buffer stock schemes, was that it would stabilize an index or a collection of 15 commodities initially, building up to 30 or more storable commodities over time. The composition of the index would be according to the tonnage as a percentage of world production and world trade (an average between the two weights). The composition could be modified from time to time in accordance with suitable statistical techniques, e.g. based on 10 year moving averages of world production and exports. Under this schema relative prices of individual commodities could float according to supply and demand. However, stabilization of the index requires that one or more prices rise while others go down. Given the strong positive correlation between commodities, stabilization of the index is expected to reduce individual commodity price volatility.

Unlike Keynes, B. Graham's *International Commodity Control* is also the international central bank, and would contract out the storage to commodity exchanges and warehouses, in selling or buying nations who may value this storage for reasons of supply security. Storage costs could be paid for by nations that chose to store, or by profits from the *International Commodity Control* buying the basket low and selling high, the sale of spot for future contracts at a lower price during periods of temporary shortage in individual commodities, or finally by assessed contributions against member nations. Post Bretton Woods Graham had accepted that politically, the *commodity reserve currency* may at best be accepted as a secondary world reserve currency to US dollars and gold, with the *International Commodity Control* being an arm of the IMF.

Graham estimated that an *International Commodity Control* stockpile of commodities would need to be around 15 percent of world production to be large enough to stabilize international prices.¹² Such stockpiling would begin during a commodity slump and might take a few years to accumulate. Once in operation the *International Commodity Control* would buy and sell the commodity unit – stabilizing world commodity *dollar prices* (or whatever currency international trade was priced in) within a 10 percent band (Graham 1944, p.44). Such open market operations by the *International Commodity Control* would result in the counter-cyclical issuance or destruction of *commodity reserve currency* (a new currency redeemable into the commodity basket of warehouse certificates): when the US dollar index price was more than 5 percent below the target the *International Commodity Control* would **buy** the basket in exchange for *commodity reserve currency*, when US dollar index price was more than 5 percent

¹² The World Bank in 2009 estimated that an international stockpile to stabilize international grain prices would require 10 percent of global production. This would have been worth roughly \$66 billion with estimated running costs of \$4–6 billion to maintain (\$1.4 billion in storage costs and \$3–5 billion of spoilage costs based on losses in high-income countries). A small price when compared to total losses to all consumers from rising food prices in 2007 estimated at \$270 billion (World Bank 2009, p. 127-130).

above the target the *International Commodity Control* would **sell** the basket in exchange for the *commodity reserve currency*.

Graham's 10 percent spread between the *International Commodity Control*'s bid and ask would give less profit to middle men and speculators than Keynes's 20 percent. But like Keynes's plan it assumed that commodity prices were correlated positively to world economic expansion and swings outside the band would adjust the supply of reserves and thus change demand for world imports counter cyclically.

Situations of negative commodity price correlation to economic growth due to supply constraints (e.g. drought) and excess speculation should not occur if the buffer stock is large enough. However, if such a case arose it would always be possible to adjust the target price index to increase the supply of reserves in the international system without restricting supply of commodities.

Unlike the gold standard, scarcity of the goods will not cause deflation, as the commodity unit price is adjusted up, so too do prices of food, manufactured goods and wages as well, to the extent that they are priced off raw material inputs. Such a correlation between consumer prices and commodity inputs would be greater in low-income countries where a large proportion of consumer spending is spent on food. If wages rise for other reasons, then a country can choose to offset this through devaluation of their currency relative to the *commodity reserve currency*.

While Benjamin Graham had preferred fixed exchange rates, Frank Graham (1944) had argued for flexible exchange rates to equalize efficiency wages across countries. Thus, in general countries were free to choose fix or floating exchange rates and thereby have independent fiscal and monetary policies, unlike a currency union. There would be no obligations, conditionality, or necessary agreements placed on countries by the *International Commodity Control*, in stark contrast to Keynes's *International Commodity Control - Bancor* plan or the IMF. Although such a lending institution may still be needed, the attribute that Graham emphasized was that all transactions with the *International Commodity Control* were debt free.

Below are the four primary advantages of the CRC put forward in the international monetary reform proposal (Graham and Graham 1944) prior to Bretton Woods, which was argued as a supplemental reserve to the British *Bancor* or to the gold exchange standard proposals:

- Real Exchange Rate Stability and Global Balance
- Price Stability
- Existence of Buffer stocks
- Expanding World Growth

We expound on each one below.

1. *Real Exchange Rate Stability and Global Balance*

While Keynes's *Bancor* would give a reprieve to deficit countries allowing them to increase their borrowing and stimulate world demand through forced spending by the surplus countries, Graham's motivations were quite different. Graham's creation of the *commodity reserve currency* as an additional reserve asset is not based on reciprocal debt or the accommodation of imbalances. Rather he distinguished his system as a *coinage* rather than credit mechanism since it had 100 percent backing for all new currency issues.

Low- income commodity producing countries generally import more merchandise than they export. Under a *commodity reserve currency*, such countries would have an alternative to the accumulation of debt, foreign aid, selling of their assets, or a fight to have trading partners lower their tariffs and accept their goods – they could coin reserves by producing more commodities even when the goods are not at that moment wanted by the creditor nations. This in turn would generate income and production through a 'commodity multiplier' similar to the foreign trade multiplier of Harrod.¹³ *Commodity reserve currencies* will afford every country that can produce commodities "the opportunity to transmute its own productivity into sound international monetary units free from the demoralizing fluctuations in exchange values" (B. Graham 1944, p.90).

Graham believed that the stock piling of commodity units were clearly better assets for creditor nations to own than claims against issuers, or claims against the IMF in terms of *Bancor*, and their value was less ambiguous than, say gold (Graham 1944, p.90). A surplus can be easily converted into material inputs for their manufactured goods from the ICC whenever they want, without driving up commodity prices (Hayek 1943) or raising interest rates on another nation's sovereign debt.

The issuance of the commodity reserve currency is endogenous, and follows a "real bills theory" (Mehrling 2011) except that it is counter cyclical. The issuance of reserves by surplus countries, or even private holders, can occur, but it does mirror the accumulation of deficits, thus reducing the potential for global imbalances that occurs with key country currency reserves.

While Graham accepted that international borrowings in *Bancor* may still be necessary, he did not directly feel the need to constrain private capital flows with a CRC in existence. Rather he and Frank Graham believed that a CRC would subordinate the international currency to the production of useful merchandise.

2. Price Stability

By stabilizing the price of a basket of weighted materials, Benjamin Graham felt that it would be a significant stabilizer on the price of finished goods and overall inflation worldwide. Frank Graham was more accepting of the diversity of prices across countries and appreciated Keynes's concern that wage inflation in manufacturing would be a greater issue for inflation than commodities (Keynes, 1943) hence his advocacy for flexible exchange rates. But whether fixed or floating, the international presence of a real anchor would create a benchmark for

¹³ Such a multiplier was best conceived by Kaldor (see below), who emphasized that the stabilization of the commodity unit at a price would equilibrate global imbalances and the terms of trade between commodities and manufactured goods.

management of domestic inflation and exchange rate policies more relevant than gold or the dollar.

3. *Existence of Buffer stocks*

Benjamin Graham's proposal provides the world with almost self-financing and interest free raw material buffer stocks due to the monetization of these stocks, and the arbitrage profits that would pay for transaction costs. The stock pile would not threaten commercial markets within the 10 percent price range. Like Keynes, Graham was acutely aware of the great fear that businessmen held of buffer stocks and their potential downward impact on prices. But by making commodities liquid, the *commodity reserve currency* could negate the market's abhorrence of stocks that ordinarily put downward pressure on prices.¹⁴

The *International Commodity Control* would not only remove price manipulation from commodity monopolies-going against agribusiness's interests among other commodity producers' ones -it would encourage output expansion by removing income uncertainty, especially for small farmers. While market proponents may advocate price certainty through futures markets and diversification away from commodities, in contrast, buffer stocks offer certainty of supply to consumers at a macro level and thus reduces spot and future price volatility.

Graham called his *commodity reserve currency* proposal his *groceries first* proposal. Such merchandise is essential to economic growth and the *commodity reserve currency* proposal would be a way to create an abundance of it, supporting temporary famines, investment in production and research into technological advancements in energy, food, material inputs and minerals.

4. *Expanding World Growth*

Graham saw the commodity reserve currency as one that would expand trade, and like Keynes and his *International Commodity Control*, he promoted but did not insist on completely 'free trade.' Graham argued that a *commodity reserve currency* would solve trade disputes in commodities by allowing autonomy in policies rather than "demonizing trade barriers as pure mischief" (Graham 1944, p.11).

While stabilizing an index would be less effective than stabilizing individual commodity prices in negating the effects of specific commodity subsidization programs, at least the basket of buffer stocks would not lead to an excess build-up of one particular commodity out of proportion with world production and trade, unlike Keynes's plan. However, the primary goal was the same, to remove supply constraints and stabilize effective demand to promote investment and improve productivity in the production of both commodities and manufactured goods so that we live in a world of abundance and sound management principles, rather than

¹⁴ This is the opposite view to the more common belief that commodity buffer stocks lead to private crowding out, and private buffer stocks are reduced (Gilbert 2011).

an unstable and unfair commodity market system, dominated by agribusiness (cartels), and subject to bubbles, famines, and uncertain monetary standards.

III. Nicholas Kaldor

While affiliated with the United Nations, Kaldor was the primary draftsman of two bold international coordination policies. The 1949, *National and International Measures for Full Employment* (see Turnell and Ussher 2009) and in 1964, *The Case for an International Commodity Reserve Currency* (CRC) (see Ussher 2009). Both proposals dealt with maximizing the productive use of the world's resources and promoting economic progress. In the latter proposal, Kaldor echoed Graham, saying "in a well-functioning world economy it is the availabilities of primary products which should set the limit to industrialization" (Kaldor 1964 p.54). "If an acceleration of agricultural production fails to induce an acceleration of industrial production it is primarily because it fails to generate the necessary increase in effective demand" (Hart 1964, 164). Several papers have summarized Kaldor's *commodity reserve currency* (see Spraos 1989, Griffith-Jones 1989, Ussher 2009, D'Arista 2009) and below is just an outline of the interesting similarities and differences between Kaldor and his predecessors, Keynes and Graham.

Kaldor's *commodity reserve currency* proposal directly linked long term development goals to the issuance of an international reserve currency with the goal of stabilizing the terms of trade of primary commodities relative to manufactured goods.

Kaldor argued that a *commodity reserve currency* could also reduce global imbalances which have been growing with the US dollar monetary system.

Like Graham, Kaldor would have the IMF issue a new reserve currency, backed by a basket of now 30 commodities (see annexe 2 p. 23), with an *International Commodity Control* at the IMF that would stabilize the index within a 10 percent band, by buying or selling the basket in exchange for the new currency, stabilizing the index. Like Keynes (1930) and Graham (1944) the proposal is to create a basic money unit that is guaranteed to be stable in terms of basic commodities. Since commodities are positively correlated with world growth, the 'gadget' as Kaldor once called it, offered an automatic counter cyclical expansion and contraction of world reserves by an *International Commodity Control* or IMF, with the developing world as the first round of beneficiaries.

The plan was submitted in 1964 to the first meeting of the United Nations Conference on Trade and Development (UNCTAD).¹⁵ Despite the limited attention that the proposal got in official discussions- in particular in OECD ones, Kaldor and Hart were convinced that it

¹⁵ After some prodding by Prebisch, who was soon to be the first Secretary General of UNCTAD, Kaldor's first draft by himself was April 1963. The final draft was in consultation with his friend Albert Hart (Hart, 1991, p. 562) who was known to have close affiliations and sympathies with B. Graham's CRC, while Tinbergen was primarily a signatory (Toye and Toye 2004, p. 221, Kaldor 1964 Essays on Economic Policy vol 2.)

would create a positive sum gain with both the developing and developed countries benefitting. Both continued to promote the idea, on and off, for the rest of their lives.

It might be gathered from Kaldor's writings that while he preferred the stabilization of an index and the storage of a basket of commodities like Graham, by 1972 he conceded that such a plan may have been too ambitious and complex to be politically feasible and advocated Keynes's simpler plan of independently stabilizing the price of individual commodity buffer stocks, using them to back the newly issued Special Drawing Rights (SDRs).¹⁶

His promotion of a CRC was to achieve three primary goals and a fourth indirect one:

- Introduce counter cyclical international liquidity;
- Higher and more stable commodity prices in terms of manufactured goods;
- Discourage destabilizing; and
- Remove the need for subsidies of agricultural

We expound on each one below.

1. Introduce counter cyclical international liquidity independent of a key nation

Prior to 1971, Kaldor wanted to avoid 'Triffin's dilemma' (see Triffin 1960) and resolve the international liquidity crisis of the 1960s where the limited growth in gold reserves had pushed the US dollar into the role of the key currency reserve, and whose growth was dependent on unsustainable US balance of payment deficits (Hart *et al* 1964). Post 1971, once the dollar had been taken off gold, a new reserve currency, independent of any nation, remained relevant to allow an ongoing counter cyclical expansion of reserves without requiring a key nation to have a persistent balance of payments deficit. Like Keynes and Graham before him, Kaldor saw a positive feed-back loop between world economic growth and commodity prices – in a world where there were underutilized resources.

2. Higher and more stable commodity prices in terms of manufactured goods

Kaldor wanted to promote industrialization of the world's poorest countries by improving and stabilizing the terms of trade between primary commodities and manufactured goods. This would promote more sustained growth and industrialization of CD developing countries, removing their balance of payment constraint and promoting investment in commodity production, which in turn would be a source of world aggregate demand. Kaldor rejected the Prebisch and Singer hypothesis that there was an inherent bias towards a downward trend of terms of trade between commodity producing countries and manufacturing countries, because he rejected the assumption underlying this hypothesis that the ratio between export volumes remain stable. Commodities would be a shrinking component of total exports, as it had been for developed countries. However, stable income in commodity exports would offer the purchasing power for capital imports, investment in natural resources, urbanization, rising per

¹⁶ In an interview in 1972 (Kaldor 1972a, p.9), and footnotes in articles (Kaldor 1973, p.87; Kaldor 1983, fn.16), Kaldor advocates warehouse receipts of individual buffer stocks to back IMF SDRs, rather than a commodity index.

capita productivity of commodity producers, and ultimately increase sustainable long run world growth: a positive sum gain.

3. *Discourage destabilizing speculation*

Kaldor wanted to remove destabilizing speculation and excessive commodity volatility which he blamed as a cause for uncertainty, investment lags, and the declining terms of trade for commodity producers in relation to manufactured goods. Like Keynes and Graham before him, Kaldor argued that speculation would be anchored to within the corridor of control held by the *International Commodity Control* if a *commodity reserve currency* was implemented.

4. *Remove the need for subsidies of agricultural*

Once a fair price is paid for commodities, then all trade within and between countries should be unencumbered. The law of one price (with due allowance for transport costs) for the same commodity should exist across all countries when the price of local currency is converted into the *commodity reserve currency*. This will support small producers, reduce the power of agribusiness intermediaries, and promote local investment in the most efficient locations. Discretionary aid to CD developing countries, and subsidies in OECD countries should no longer be needed.

In honour of Keynes, Kaldor in 1964 called his commodity reserve currency *Bancor* - a “universal reserve medium which would command acceptance on account of its evident stability in *real value*” independent of paper currency (Hart *et al* 1964, p.144). In 1972, he suggested that for the new Special Drawing Rights (SDRs) to become a useful international reserve, it needed to have real cover, such as backing it by commodities.

“[Such] paper gold schemes ... are acceptable only in the shadow of a major currency, such as the dollar, and in relatively small volume. I therefore regard the idea that international paper money can be introduced with the same success as national paper money a naïve one – so long as international agreements are not binding on nations with the same force as national law” (Kaldor 1972, 201).

As a chartalist, Kaldor recognized that at the national level paper currencies could be issued without real cover, and are not reliant on mutual reciprocity for their value, because they have a national Government that makes their paper money legal tender within its area, enforcing its acceptability, protecting any debtor who tender payments in terms of the legal tender to their creditor, and insists on payments of numerous kinds (e.g. taxes) be tendered in legal money. In the international context there is no similar way of enforcing acceptability, and hence a new currency independent of nation states must have real cover. Otherwise, if their convertibility into national currencies is brought into question, there is no limit to which they may fall (*ibid*).

As with Keynes and Graham the eligible commodity units would be of standardized commodities, quoted on commodity exchanges, that have a low cost of storage and appropriate inventory management to minimize spoilage. Ideally, the basket would be composed of a wide range (e.g. 30 to 60) of commodities which are universally used and whose values therefore, taken individually, would not be greatly changed by their use as a reserve medium. An example of a Kaldor buffer stock is given in the table appearing in Annexe 2 p.23.

The relative tonnage proportions of the commodities in the basket would be determined by their share in world trade (periodically re-evaluated). Kaldor estimated the necessary size of the buffer stock to be similar to Graham's or larger. The stockpile would be 30 percent of a year's worth of world trade in all primary commodities, approximately US\$20 billion in 1964. Since only 30 commodities might be eligible, at least initially, under this scenario each commodity would be stock piled in a range of 90 to 125 percent of its own world trade in a year, or 25 percent of world production in these eligible commodities (Hart *et al* 1964, p.149). Graham had noted that normally private stocks averaged around 25 to 33 percent of yearly production (Graham 1944, p.48).

A commodity reserve currency would stabilize average commodity prices by modifying supply of every commodity in the basket proportionately. It is believed that given the high correlation across prices, it would also stabilize individual commodity prices. Alternatively, there is a fear by critics that destabilizing individual price changes are set in motion by stabilization of the composite unit (Tyszynski, 1950).¹⁷ Hence in contrast to B. Graham, Kaldor excluded commodities like coal and oil from the indexed buffer stock basket, given their large volumes in world trade.

Kaldor's spread between the buy and sell of the *International Commodity Control* was just 4 percent, much tighter than Graham's 10. Like Graham, the target basket index would be based on some historical average valuation, e.g. past 10 years, and re-evaluated to meet the goal of a long-run relatively stable inventory as a percentage of world trade. Kaldor suggested that the quantity of commodity-reserves might grow at 3 per cent per year and this could be less than world growth depending on the degree to which commodities remain as inputs into an economy's measure of output. Hence the growth in the commodity sector may well be less than the optimal rate of growth in industry. The choice of growth should be one that brings these two sectors into balance and stabilizes the terms of trade between commodities and manufactured goods. A growing stock pile of commodities had to be viewed in terms of overall need for such goods:

While any given rate of expansion of primary production may be more than is required to support the industrial expansion of the countries which are *already fully industrialized*, it can be viewed as 'excessive' only if we ignored the possibilities of accelerated industrialization in all those areas which still have large labour reserves in agricultural sectors, and whose industrialization could be stepped up very considerably under favourable conditions (Hart *et al* 1964, p.164).

We saw this recently in the case of Chinese growth, which actually witnessed income elasticity greater than 1, given its industrialization phase.

After 1972, i.e. after the first issuance of SDRs took place in 1969 and after the breakdown of the Bretton Woods system in August 1971, Kaldor started advocating Keynes's plan of individual commodity buffer stocks to back a *commodity reserve currency* over Graham's basket but he nevertheless wanted to allow for relative price changes. Instead of targeting the complete stability of the average price level of the commodities, the individual

¹⁷ "In a free world economy [...] divided into national economic units, an increased efficiency of Canadian wheat farmers leading to greater profits of Bolivian tin producers may cause international ill-feeling." (Tyszynski, 1955, cited in Paesani and Rosselli, 2013, 12).

“adjustment of price would be circumscribed by carefully laid down rules, relating the movement of the stock/turnover ratio of a particular commodity deviating from the average in excess of a permitted range of variation... [individual] buffer stock scheme[s] linked to the issue of SDRs would thus provide the world with a basic money unit which can be guaranteed to be stable in terms of basic commodities” (Kaldor 1983, p.243). Kaldor never gave a lot of detail on how this plan would actually be implemented, rather he referred back to Keynes (1974).

To conclude this section, let us quote the closing remark of the lecture on international monetary reform that Kaldor gave in Rome in December 1973.

Whether in the long run it is a good thing or a bad thing for mankind that world economic growth should be accelerated to the maximum feasible extent is a question that is perhaps open to debate. But given the objectives of maximum economic prosperity there can be little doubt that a commodity reserve standard as an international reserve currency would be an ideal instrument for promoting that end. (Kaldor 1973, p.98)

IV. Jean de Largentaye

In France, Largentaye (1903-1970) who had translated Keynes’s *General Theory* in 1939 (Largentaye H. de 2018)¹⁸, was an adamant defender of a “commodities standard” – his term for the Commodity Reserve Currency - as an alternative to fiat money which could be implemented at a national, regional (e.g. European Economic Community) or international level. Advocating a commodities standard was indeed his life-long cause.

In the last months of 1943, while working to prepare the French government’s position for the Bretton Woods Conference, Jean de Largentaye studied Keynes’s ICU-*Bancor* plan (Largentaye H. de 2023 pp.77-81), presented in Section I, but never knew about Keynes’s 1941 *International Commodity Control* proposal, published only in 1972, after he had died.

During this period, he had also read Frank Graham’s (Graham F. 1940) and Benjamin Graham’s (Graham B. 1937) writings on their commodity currency while he was a senior French Treasury civil servant, working under Pierre Mendès France (PMF), then Minister of Finance of the “Free France” government (November 1943). In this capacity, he examined different proposals for the future international system, and supported Hayek’s 1943 “commodity reserve currency” which was actually taken from the two Grahams (Hayek, 1943 p.176). However, he acknowledged that the political timing made it an unfeasible scheme and hence recommended the Keynes plan rather than the White plan (Largentaye, H. de 2023 pp.81-83)

In July 1944, as a member of the French delegation led by Pierre Mendès France, he attended the Bretton Woods Conference and wrote a report for the French minister of Finance

¹⁸ After the publication of *La Théorie générale de l’emploi, de l’intérêt et de la monnaie* (Payot, 1942), Jean de Largentaye became one of Keynes’s main propagators in the francophone world.

(René Pleven) emphasizing the inconveniences of the dollar exchange standard compared to a commodity reserve currency (Largentaye, H. de 2023 pp.293-376)

A few weeks after the Savannah Conference (1946) which kicked off the IMF and the World Bank, Pierre Mendès France, who was in the first weeks the French Executive director of both institutions had Largentaye appointed as his successor at the IMF. Largentaye kept this position for 18 years, from 1946 to 1964.

In January 1947, six months after he had taken this position as Executive Director at the IMF, Largentaye gave four lectures at the French ENA¹⁹ on “Foreign payments and international trade” for students preparing their careers in public administration. He pointed out how the new-born IMF could finance the future International Trade Organisation (ITO), which wasn’t then an institution but only a project aiming at eliminating protectionist measures and promoting free trade among nations. At that time, world trade was mostly made up of commodities. Largentaye suggested that the IMF could finance commodity buffer stocks in order to stabilize commodity prices and thus regulate a market dominated by monopolistic producers. The IMF could, without paying costs, issue fiat money to finance these stocks which the ITO was unable to do as its potential members -the same as the 44 members of the IMF - lacked money to finance their contributions for the proposed institution’s capital. The project was abandoned in October 1947 and replaced by the General Agreement on Tariffs and Trade (GATT).

All during his IMF career, Largentaye stood out as a staunch advocate of the commodity reserve currency. At a meeting of the IMF board in April 1954, he supported a proposal of the UN’s ECOSOC and defended a commodities standard, putting forward its ‘potentially stabilizing effect’, thus making it a much more appropriate international monetary standard than the Bretton Woods gold exchange standard (Horsefield 1969 pp 384-385).

The same year, in 1954, he published an article “*Étalon-or ou étalon marchandises*” - “Gold standard or commodities standard” - (Largentaye H. de, 2023, pp. 424-447) which aroused a controversy with Ralph Hawtrey (1879-1975), one of Keynes’s most prominent disciples. In a ten-page letter, Largentaye responded one by one to Hawtrey’s criticisms. (Largentaye H. de, 2023, pp. 437-446)

In the mid-1960s, as policy-makers (in particular the Group of 10²⁰) were discussing a presumed shortage of international liquidity – a pretext for the IMF to create Special Drawing Rights (SDRs), Largentaye who was a firm opponent to this project, wrote a long article in 1965 “The Commodities Standard”, shortly after he had left the IMF (Largentaye J de 2019).

In this article, Largentaye showed that the nature of money (pure fiat money after the gold standard was gradually abandoned in the 20th century) was the underlying cause of economic cycles in industrialized countries and of pauperization in developing countries, especially those dependent on their commodity exports.

¹⁹ *Ecole nationale d’administration* (National School for Administration)

²⁰ « Le Groupe des Dix » which included the US, the UK, Sweden, Japan, Canada, Italy, Belgium, the Netherlands, Germany, and France (and Switzerland a year later) was put together by the US and the UK in order to convince industrialized countries to adopt the “General Agreements to Borrow”- in response to these two key-currency countries’ requests.

He believed that because money sovereignty had been bestowed to banks through their capacity to issue fiat money, they controlled the economy and were therefore largely responsible for its unsatisfactory outcomes. And owing to the “exorbitant privilege” of the dollar, US banks held a dominant position in the world. They could acquire assets belonging to nationals of other countries – so long as these other countries accepted the dollar-exchange standard and allowed capital to flow freely between countries. Largentaye called this “American monetary imperialism.”.

In contrast, a commodities standard would ensure price stability as well as full employment through the stabilising effect of aggregate demand and adjustments to monetary commodity inventories as we have seen in section II on Benjamin Graham.

Largentaye’s definition of the commodities standard was the same as Graham’s, i.e. a basket made up of weighted volumes of the most important staple commodities, provided these commodities would respect certain criteria (they had to be homogenous and storable).

Largentaye insisted on the neutral feature of a commodities standard. A currency must be able to set future prices. To this end, its “monetary value” – i.e., the value deriving from the monetary use of the commodity – must be as small as possible. For instance, gold is not a neutral standard because it has a high monetary value and its other uses are limited and specific, mainly jewellery and dentistry.

At an international level, one of the major objections mentioned by opponents to the *commodity reserve currency* was the difficulty of its implementation. From this viewpoint, in 1966, Pierre Mendès France who was then involved in development issues concerning the “Third World”, made a major step forward, advocating a “fourth floor” for international finance. This “fourth floor” was the international *commodity reserve currency* that Kaldor²¹ and Hart advocated in 1964 at UNCTAD (see section III). However instead of being a unique international currency replacing the Bretton Woods gold exchange standard, it would be a complementary reserve currency, managed by the IMF, in addition to gold (or dollars convertible into gold)- the first floor, to borrowing from the IMF (drawing rights)- the second floor, and borrowing from banks- the third floor (Mendès France, 1966).

In other words, instead of basing the whole monetary system on the principles of commodity money which would be a revolutionary upheaval, they could be retained only for what I have called **the fourth floor of the building**. To make up the reserve monetary element corresponding to this fourth stage, stocks would be built up consisting of a combination of shrewdly chosen homogeneous and storable commodities, i.e., material cash would be added to existing gold balances. (Mendès France 1966)

Mendès France remembered that preparatory work for the Bretton Woods Agreements of July 1944 had explored proposals of this kind -he may have had in mind B. Graham’s 1944 proposal which Jean de Largentaye who was then his adviser for international monetary matters had mentioned as stated above. In 1966, he argued that under an article²² of the Bretton Woods

²¹Kaldor was a close friend of Mendès France. They had probably met at the UN’s ECOSOC in the 1950s. This is why it was natural for Mendès to refer to Kaldor’s 1964 plan. Largentaye was also a close friend of Mendès France but he had never met Kaldor (HL).

²² Pierre Mendès France cited Article IV, section 4 : We think he was mistaken and meant Article III, Quotas and Subscriptions Section 5: *Substitution of securities for currency* The Fund shall accept from any member in place of any part of the member’s

Final Act, the International Monetary Fund could grant Member States secured facilities against substitutes for their currencies consisting of “notes or similar obligations issued by the member”. Mendès France who headed the French delegation at the Bretton Woods Conference in July 1944 probably considered in 1966, i.e., 22 years after, that “warehouse receipts of staple commodities in international trade”, were acceptable substitutes for members’ currencies.

Mendès France’s 1966 proposal was close to B. Graham’s 1944 proposal (a supplemental reserve to the British *bancor* or to the American gold- exchange standard) and was a precursor of Kaldor’s 1974 scheme mentioned in section III (p.15); i.e. backing IMF-issued SDRs to commodities.

V. Bernard Lietaer

Largentaye’s last writings ended in the late 1960s. We will make a thirty - year leap into the 21st century when “sustainability” issues climbed at the top of international, national and local agendas.

The Club of Rome’s “Limits to Growth” report (Meadows et al. 1972) blew the whistle. However it wasn’t until 2015, the United Nations adopted 17 sustainable development goals (SDGs) for 2030. Both documents put special emphasis on environmental issues, in particular on the dangers of climate change and of a diminution of biodiversity. Very few economists have so far looked into the monetary aspect of these issues.

Bernard Lietaer ²³, an early advocate of a commodity reserve currency, went a step further and found that this type of money could also be a solution to meet the 21st century sustainability challenges. Indeed, he thought that without reforming the monetary system, it was vain to think that the world could achieve successfully its environmental transition. This is because money is based on bank debts – our universal current fiat system- which is conceived for short- term yields whereas environmental goals are long term.

Lietaer gives three reasons for this. In the first place because bank-debt money which carries interest leads to short-term thinking by discounting future costs or incomes. Secondly, because uncertainty is an intrinsic feature of fiat money (or bank-debt money) which undermines the meaning of prices and therefore thwarts investors’ calculations as well as those

currency which in the judgement of the Fund is not needed for its operations, notes or similar obligations issued by the member or the depositary designated by the member under Article III, Section 2, which shall be non-negotiable, non-interest bearing and payable at their par value on demand by crediting the account of the Fund in the designated depositary (HL) .

²³ Bernard Lietaer (1942-2019) was a Belgian economist who worked at the Central Bank of Belgium was also an academic. Among other books, he wrote *The Future of money* (2001), *Creating wealth* (2011), *Money and sustainability, the missing link* (2012), *Rethinking money* (2013).

of buyers and sellers. The last reason, a consequence of the first two, is because the environmental transition needs long term investment which will be difficult to finance in a market economy based on fiat money.

Lietaer thought that a commodity reserve currency could be an answer to environmental problems. His own design was of a monetary unit which he called *Terra* as “an inventory receipt defined as a standardized basket of the most important commodities and services in the world for which futures markets are either already established or could be (e.g. oil, wheat, copper, and other staple commodities, some standardizable services and *Carbon Emission Rights*) (Lietaer 2012).

Table 1. Lietaer’s Standardized and storable commodities for an international commodity reserve currency

Agricultural Materials	Raw Edible Oils	Metals and Energy
Cotton	Rapeseed	Copper
Wool	Canola	Zinc
Rubber	Palm Oil	Tin
Wood		Lead
Paper Pulp	Food and Beverages	Aluminum
	Sugar	
	Coffee	
Wheat	Tea	Columbite-tantalite*
Corn	Cocoa	
Rice	Pork bellies, frozen	Natural Gas*
Soybeans	Orange Juice, frozen	Ethanol*
Oats	Dried Milk	Bio-diesel*
		Carbon Permits**

*Commodities not in previous Graham or Kaldor plans, though many more can be added.

** The suggestion of Carbon permits comes from Lietaer (2004).

Because it is fully backed by a physical inventory of commodities, *Terra* would be a very robust anti-inflationary standard of value. It could be used as a supra-national trading currency. In parallel, Lietaer also proposed a series of complementary currencies issued by communities such as villages, regions, social organizations, and private companies.

Terra differs from previous commodity-basket proposals (Graham, Kaldor, Largentaye) in that storage costs of the basket are paid by the bearer of the currency, making it a “*demurrage charged currency*” (i.e. a currency with a negative interest), a device that insures its circulation as a trading tool. Thanks to demurrage, investments with longer-term concerns would prevail, eliminating the conflict between short-term priorities- often driven by financial speculation- and long-term priorities including environmental concerns.

In his book *Money and Sustainability, The Missing Link* (2012), which includes a *Forward* by Dennis Meadows, Lietaer devised a variant of *Terra* which he called *Trade Reference Currency* (TRC), a global currency for multinational businesses backed by a standardized basket of a dozen of the most important commodities (including gold) and services.

TRC, a non-governmental initiative would have a central structure in charge of issuing inventory receipts used by all those meeting certain pre-established criteria on the model of the VISA card system.

As Lietaer summarized his concept, “*TRC* is a systemic solution to the conflict between corporate short-term priorities and the long-term needs of society, so that the vast capacities of global corporations can be harnessed towards sustainability without relying only on regulations and moral pressure.” In Lietaer’s view, *TRC* is simply a standardisation of international barter (countertrade) (Lietaer 2012 p.159).

Other imaginative and path-breaking proposals for financing the world’s sustainable challenges have been put forward since Lietaer published *Money and Sustainability* but few are based on a *commodity reserve currency* in the lineage of the Keynesian schemes that we have presented.

Conclusion

The evolution of the international monetary system since the Second World War is largely a consequence of inappropriate standards: the Bretton Woods gold exchange standard with fixed exchange rates until 1971 followed by the “flexible-exchange-rates/USD standard” with no anchor after that.

The US who issues the world’s key currency – an anomaly which President de Gaulle called in 1965 the “exorbitant privilege” of the dollar – has remained the world’s banker as it was when it held the Bretton Woods Conference in 1944.

However, this may change even without a global treaty (Tooze 2023). While US financial deregulation started in the 1980s, the supremacy of the US dollar system was dependent on the recycling of funds back to the US through the strong demand for USD assets by countries dependent on their exports of commodities. If the US was to reduce its capital outflow, turn its commodity trade balance into a surplus, or default on its government bonds, then the desire of the rest of the world for US dollar assets would decline. With a decline in

portfolio demand for USD assets, the US exorbitant privilege might disappear. The US would need to pay down its external debt or face a depreciating exchange rate and possible stagflation.

As the impact of the US dollar as a world reserve currency on all economies weakens, there will be more reason to seek out an alternative. There is already political will by Venezuela and nations belonging to the BRICS²⁴ groups to create their own common currency for trade and investment between each other, as a means of reducing their vulnerability to dollar exchange rate fluctuations²⁵.

The world is disaggregating. The meaning of the term “global” is changing as shown by the new denomination, the “Global South” which doesn’t include the US nor the European Union. American leadership is questioned by prominent countries, such as the Popular Republic of China (Zhou,2009).

Furthermore, in 2024, the paradigm has changed. The UN’s 17 “sustainable development goals” aim at catching up lost ground in terms of the world’s “sustainability” but it seems like the monetary facet- under the responsibility of the IMF- has been overlooked. Time has come to consider global financial innovations²⁶ which not only would dampen the dollar’s hegemony but would also propose stable currencies that breed sustainability.

²⁴ A group of four commodity-exporting countries-Brazil (B), Russia (R), India (I), China (C)-was dubbed “BRIC” in 2001. These four countries have high GDP growth rates and their joint production is expected to overtake the US’s one by the first half of the 21st century. South Africa joined the initial group in 2011. These countries seek increasing their voting rights in international organizations (IMF, WTO, WB) and reducing their currency- dependency on the US dollar. In 2023, six other countries (Saudi Arabia, UAE, Iran, Egypt, Ethiopia and Argentina) have declared their desire to become members.

²⁵See Haas A. & al. “Times of branching? The BRICS currency initiative and twelve possible futures for the international monetary system”,23/11/2023

²⁶See Potvin J. “Earth Reserve Assurance (ERA): A Framework for Sound Money”, 23/11/2023 and Coats,W. 2011, Real Currency Board. Central Banking Vol.XXII, Iss.2 (2011). Available at http://works.bepress.com/warren_coats/25/ (checked 01/18/2024

List of References

Bilge Erten, José Antonio Ocampo, “Super Cycles of Commodity Prices Since the Mid-Nineteenth Century,” *World Development*, Volume 44, 2013, Pages 14-30, ISSN 0305-750X, <https://doi.org/10.1016/j.worlddev.2012.11.013>.

D’Arista, J. (2009). The evolving international monetary system. *Cambridge Journal of Economics*, 33(4), 633–652. <http://www.jstor.org/stable/23601991>

Gilbert, C. (2011), “International Agreements for Commodity Price Stabilisation: An Assessment”, OECD Food, Agriculture and Fisheries Papers, No. 53, OECD Publishing. <http://dx.doi.org/10.1787/5kg0ps7ds0jl-en>

Grilli, E. and M.C. Yang (1988) “Primary Commodity Prices, Manufactured Goods Prices and the Terms of Trade in Developing Countries”, *World Bank Economic Review*, Vol. 2, pp.1-47.

Graham B., and D. Dodd (1934) *Security Analysis*. New York: McGraw Hill.

Graham B., (1937) *Storage and Stability: A modern ever-normal granary*. 1997 reprint, New York: McGraw Hill.

Graham B., (1944) *World Commodities and World Currency*. New York: McGraw Hill.

Graham B., and F. Graham (1944) *Committee for Economic Stability*, unpublished. June 21, pp.1-4.

Graham, F. D. (1949) *Social Goals and Economic Institutions*. Princeton, NJ: Princeton University Press.

Graham, F.D., (1944) “Keynes vs. Hayek on a Commodity Reserve Currency” *The Economic Journal*, 54, 215, pp. 422-429, December 1944

Griffith-Jones, Stephany (1989) "Nicholas Kaldor's contribution to the analysis of international monetary reform," *Cambridge Journal of Economics*, Volume 13, Issue 1, March 1989, Pages 223–235, <https://doi.org/10.1093/oxfordjournals.cje.a035085>

Grondona, L. S (1975) *Economic Stability is Attainable*. Hutchinson Benham Ltd, London. Harrod R. F., (1957) *International Economics, 4th edition* University of Chicago Press, First printed in 1933.

Hart, A.G., N. Kaldor and J. Tinbergen (1964) *The Case for an International Commodity Reserve Currency*. Geneva: UNCTAD. Reprinted in N. Kaldor, 1964, *Essays on Economic Policy II: Vol. IV of Collected Economic Essays of Nicholas Kaldor*. 1980 edition, New York: Holmes and Meier.

Hart A. G., (1976) “The Case as of 1976 for International Commodity-Reserve Currency, ” *Weltwirtschaftliches Archiv*, vol. 112, no. 1, pp.1-32

Hart A. G. (1991) “Nicholas Kaldor as Advocate of Commodity Reserve Currency,” in *Nicholas Kaldor and Mainstream Economics: Confrontation or Convergence?* (eds) E.J. Nell and W. Semmler. New York, St Martin’s Press, pp561 – 570.

- Hayek F.A., (1943) "A Commodity Reserve Currency," *The Economic Journal*, 53, 210, pp. 176-184, June – September.
- Horsefield, J. Keith, 1969, *The International Monetary Fund (1945-1965) Volume I (Chronicle)*
International Monetary Fund, Executive Board Minutes (EBM), April 2, 1954,
- Jevons, W.S., (1876) *Money and the Mechanism of Exchange*. New York: D. Appleton and Co. 1876. Library of Economics and Liberty [Online] available from <http://www.econlib.org/library/YPDBooks/Jevons/jvnMME25.html> accessed 30 112023
- Kaldor, N., (1964) Introduction, pp.vii-xxii. *Essays on Economic Policy II: Vol. IV of Collected Economic Essays of Nicholas Kaldor*. 1980 edition, New York: Holmes and Meier.
- Kaldor, N, (1972a) "Money and Gold" *Acta Oeconomica*, 9(2), pp.199-203
- Kaldor, N, (1972b) "Reform of Bretton Woods" (ed) B. Schefold, *Floating – Realignment – Integration*. pp. 19-49. Kyklos Verlag Basel.
- Kaldor, N., (1973) "Problems and Prospects of International Monetary Reform," *The Banker*, September. Reprinted in N. Kaldor, 1978, pp.74-89. *Further Essays on Applied Economics: Vol. VI of Collected Economic Essays of Nicholas Kaldor*. New York: Holmes and Meier.
- Kaldor, N., (1974) "International Monetary Reform: The need for a new approach", *Bancaria*. As translated in N. Kaldor, 1978, pp.90-98. *Further Essays on Applied Economics: Vol. VI of Collected Economic Essays of Nicholas Kaldor*. New York: Holmes and Meier.
- Kaldor, N. (1983) "The Role of Commodity Prices in Economic Recovery", *Lloyds' Bank Review*, July. Also, *World Development*, 1987. Reprinted in A.P. Thirlwall and F. Targetti (eds), 1989, (pp.235-250), *Further Essays on Economic Theory and Policy: Vol. V of Collected Economic Essays of Nicholas Kaldor*. New York: Holmes and Meier.
- Keynes, J. M. (1913) *Indian Currency and Finance, The Collected Writings of John Maynard Keynes* CWI, Cambridge University Press for the Royal Economic Society
- Keynes, J. M. (1930) *A Treatise on Money*, Volume II, *The Collected Writings of John Maynard Keynes* CW VI, p.351-352, Cambridge University Press for the Royal Economic Society
- Keynes, J. M. (1938) "The Policy of Government Storage of Foodstuffs and Raw Materials", *The Economic Journal*, 48, 191, pp. 449-460, September.
- Keynes, J. M., (1943) "The Objective of International Price Stability," *The Economic Journal*, 53, 210, pp. 185-187, June – September.
- Keynes, J. M. (1944) "Note by Lord Keynes" *The Economic Journal*, 54, 215, pp.229-230, December
- Keynes, J. M. (1942) "The International Control of Raw Materials," *Journal of International Economics*, pp.299-315, August 1974 and *The Collected Writings of John Maynard Keynes* CW XXVII (1980, p. 112-134)
- Largentaye J. de (2019), "The Commodity Standard," accessed November 2023; <https://mpira.ub.uni-muenchen.de/91750/>

Largentaye J. de (1947), *Les paiements extérieures et le commerce international* (Cours ENA promotion « France Combattante » 1946-1947, janvier 1947) in French, not published, family archives

Largentaye H. de (2019) “Gained in translation: the French edition of The General Theory by J.M. Keynes “ *Research in the History of Economic Thought and Methodology*, Vol 37B, p.95-111

Largentaye H. de (2023), *Jean de Largentaye, économiste non conformiste*, Classiques -Garnier (835pages)

Lietaer, B. (2004) *The Terra TRCTM White Paper*. Access Foundation. Accessed <http://www.terratrc.org/whitepapers.html>

Lietaer, B. (2012) *Money and Sustainability The Missing Link A report from the Club of Rome -EU Chapter to Finance Watch and the World Business Academy* (Black and White Edition, UK)

Meadows, D. H., D. L. Meadows, J. Randers, and W.W. Behrens III (1972) *The Limits to growth; a report for the Club of Rome's project on the predicament of mankind*, Universe Books, New York.

Mehrling, Perry (2011) “The Monetary Economics of Benjamin Graham : A Bridge Between goods and Money.” *Journal of the History of Economic Thought*. 33(3):285-305. doi:10.1017/S105383721100023X

Mendès France, Pierre (1966), « Pour une politique nouvelle, consciente des besoins communs de l'économie mondiale », *Le Monde Diplomatique* , November 1966 , p.1-11

Moggridge, D. (1980) editor, “Activities 1940-1944: Shaping the Post-war World: the clearing Union,” in *The Collected Writings of John Maynard Keynes*, Volume XXV, Royal Economic Society, MacMillan and Cambridge University Press, Cambridge.

Morgenthau, H. (1944) United Nations Monetary and Financial Conference Final Act and Related Documents US Government Printing Office, 1944 p.3-6 and p.7-10

Myrdal, G. (1957) *Economic Theory and Underdeveloped Regions* (London, Duckworth).

Pfaffenzeller, S., P Newbold and A Rayner (2007), ‘A Short Note on Updating the Grilli and Yang Commodity Price Index’, *The World Bank Economic Review*, 21(1), pp 151–163.

Paesani, P., Rosselli, A. (2013): The case for a supra-national control on commodities in the post WWII world: novel perspectives from FAO and Kaldor archives, Mimeo.

Prebisch, Raul (1950) *The Economic Development of Latin America and its Principal Problems*. New York: United Nations Economic Commission for Latin America.

Rutten, L. (2001) “Local market opportunities with respect to warehouse receipt finance – tapping into the local capital market,” Singapore, 29-30 November. Accessed http://r0.unctad.org/infocomm/comm_docs/docs/staff/Singapore01.pdf

Spraos, John (1989) "Kaldor on commodities", *Cambridge Journal of Economics*, Volume 13, Issue 1, March 1989, Pages 201–222, <https://doi.org/10.1093/oxfordjournals.cje.a035084>

Singer, H.W. (1949) *Relative Prices of Exports and Imports of Underdeveloped Countries*. Lake Success, New York, UN Dept of Economic Affairs.

Singer, H.W. (1950) "The Distribution of Gains between Investing and Borrowing Countries." *American Economic Review* 40, pp. 473-85.

Spraos, J. (1989) Kaldor on commodities, *Cambridge Journal of Economics*, 13, pp. 201–222.

Tooze, Adam (2023) accessed November 2023 <https://adamtooze.substack.com/p/chartbook-212-the-end-of-the-petrodollar>

Toye, J. and Toye, R. (2004) *The UN and Global Political Economy: Trade, Finance and Development*. Bloomington & Indianapolis: Indiana University Press.

Triffin, R. (1960), *Gold and the Dollar Crisis: The Future of Convertibility*. New Haven Yale University Press.

Triffin, R. 1968. *Our International Monetary System: Yesterday, Today and Tomorrow*, New York, Random House

Turnell S., and L.J. Ussher (2009) "A 'New Bretton Woods': Kaldor, and the Antipodean Quest for Global Full Employment," *Review of Political Economy*, pp.423-445 Vol 21(3).

Tyszynski H.(1950) "A Note on International Commodity Agreements," *Economica*. Vol 17, No.68, Nov. pp. 438 – 447

United Nations (2023) *State of Commodity Dependence 2023*. United Nations Conference on Trade and Development eBook, English, Publisher: International Trade Centre, Bloomfield, 2023. Accessed on 19th 2024. <https://unctad.org/publication/state-commodity-dependence-2023>. eISBN: 978-92-1-002779-3

Ussher L. (2009), Global Imbalances and the Key Currency Regime: The Case for a Commodity Reserve Currency" *Review of Political Economy*, pp.403-421 Vol 21(3).

Ussher L. (2011), "Combining International Monetary Reform with Commodity Buffer Stocks : Keynes, Graham and Kaldor," Institute for New Economic Thinking Conference, Bretton Woods, New Hampshire, April 8–10, 2011.. Video Presentation, Slides.

Ussher, Leanne., Armin Haas, Klaus Töpfer, and Carlo C. Jaeger (2015), "Keynes and the International Monetary System: Time for a Tabular Standard?," *The European Journal of the History of Economic Thought*.

Ussher L. (2016), International Monetary Policy with Commodity Buffer Stocks," *European Journal of Economics and Economic Policies: Intervention*. pp. 10-25, Vol 13(1). <https://doi.org/10.4337/ejeep.2016.01.02>

Zhou, (2009), *Bank of International Settlements Review* (BIS Review 41/2009)