AN INTELLECTUAL HISTORY OF RESOURCE-BASED INTERNATIONAL CURRENCY

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> "The idea of commodities as monetary reserves is one that does not die easily. Should a sharp fall occur in the world prices of primary products, and especially if such a fall is accompanied by a general slump in business activity, the scheme is almost certain to be revived in one form or another" (Rosenson, 1948, 135)

> "Gold and credit, as monetary standards, must be replaced by an aggregate of stock commodities having real utility, a utility not based first and foremost on their monetary application. I am convinced that reform of this order must one day be made. However, let us have no illusion. It is not as easy as it first appears. Apart from certain practical difficulties, it is confronted by powerful interests and deep-seated prejudices. There is little chance of it being realized within our lifetime. Let us wish, however, that our children, or grandchildren, may see it carried out [...] (de Largentaye, 2022 [1965], 576).

I Introduction

The trend towards the imposition of fiat national and international money is accepted as natural and inevitable. Monetary history and the history of ideas, however, show that the counter-tendency - that of material (substance) money - has always existed. It has been supported by leading economists belonging to different and even opposing theoretical and ideological positions. Nominalism has never completely defeated substantialism.

The idea of resource-based international money (hereafter referred to as RBIC) emerged in the 1920s, initially as an extension of national projects. since then, it has followed a certain cyclical pattern, linked to wars and crises in the global monetary economy, to the exacerbation of resource problems, and to geopolitical confrontations.

Today things are no different. The issue of resources, international resource money projects (without having been technically developed[2]), are being launched in light of the

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[2] See, for example, Nenovsky and Bondi (2024) and Nogueira (2023).

processes of de-dollarization and the formation of multipolar monetary blocs, and as a response to climate and resource (strategic resource) constraints.

In the past, criticisms of the model have been limited to three - (i) high costs (taking funds away from growth), (ii) technical and informational difficulties in calculating coverage and basket rates, and (iii) political infeasibility of the idea. Modern information technology largely solves the first two. As far as political resistance is concerned, it remains, although the idea is making its way within various groups of countries (BRICS, for example).

The task of the present text is to trace the path of the idea of the BRIC, distinguishing two periods, - from the depression years to the end of the World War II (part one), - from the World War II to today (part two). French economists have made a particular contribution to the development of the idea (their contribution is presented in the third part).

II International Resource Money Against Depression and the Collapse of the World Economy (1925-1945)

Forerunners

Within the debate between bimetallism and monometallism, the first to propose a stabilization of the purchasing power of money, including international money, based on a composite basket were Stanley Jevons (tabular standard model) and Alfred Marshall (symmetallism model). In expounding the tabular standard model, Jevons suggests converting to a particular basket of about 100 commodities (Jevons, 1875). Marshall (1887), on the other hand, proposes pegging money to a fixed combination of gold and silver. In the symmetallism model, the exchange rate between gold and silver is freely determined, i.e. it is floating, not fixed legally as in bimetallism.

The pioneers of the idea

Perhaps the first paper to appear after the Genoa conference was that of Lewis (1925). Lewis proposed the stabilization of money at the national and international level on four products - wheat, cotton, iron and silver, against which four warrants would be issued respectively. Money conversion is done on an individual basis.

The real flowering of the idea of material money occurred after the Great Depression, when the crisis of the agrarian sector (falling prices and unemployment), the destruction of international trade and international money flows, and the struggle for colonies and resources all unfolded simultaneously. To these processes was added the withdrawal of Soviet Russia from world markets.

The first publication to *systematically* develop a model for stabilizing agricultural resource prices through the issuance of money was the book *How to Stop* Deflation by the Dutch economist and statistician Jan Goudriaan (1932)[3].

In the 1930s, Benjamin Graham and Frank Graham (no family relation) became the main drivers of the resource money model in the US. Together with Goudriaan, they gave the model its name (GG/ Goudriaan - Graham). And while B. Graham singles out money issuance as an element of primary resource price stabilization, F. Graham puts the stabilization of money and monetary theory in the spotlight from the very beginning. In 1937, B. Graham published "*Storage and Stability*" where he presented the concept of linking the stabilization of commodity prices through a mechanism of resource stockpile that could provide a basis for sustainable monetary issuance. Although the focus is on the national dimension of the model, its international use is also considered. In turn, F. Graham published a series of articles, and in 1942 the book *Social Costs and Economic Institutions*.

The reactions did come late. Among the first was Friedrich Hayek, who in his book *Monetary Nationalism and International Stability* (1937) gave a positive view of the commodity model as a solution to the international monetary system. In 1943, in the pages of the Keynes-led journal *The Economic Journal*, Hayek argued in detail for the commodity plan (Hayek, 1943).

Stressing again the need for an international monetary standard, Hayek shows that the advantages of a gold standard (a homogeneous monetary regime) are not related to the properties of the gold material itself, but only to their functional characteristics. These characteristics, however, can be replicated by other goods and materials. Hayek notes that the psychological factors that supported gold up to the First World War and in the early years afterwards gave way to strong biases against the yellow metal. He highlights the slow equilibration of the gold market as a result of supply and demand shocks; for example, the movement of gold volumes is much slower than the movement of its price. The latter leads to successive periods of inflation and deflation. That is, even gold poses the central problem for Hayek of the unstable side of liquidity (Hayek, 1943, 178).).

These are basically the arguments that led Hayek to support and develop the idea of a commodity basket (of raw materials) that would serve as a new anchor for money.

[3] J. Goudriaan (1893-1974) subsequently worked in South Africa, and in 1951/1953 was commissioned by the UN to head a committee to study the issue of stabilizing commodity prices and the issue of resource money. The commission issued a report in April 1954, but the UN Board of Directors refused to consider it (from the memoirs of de Largentaye, the administrator for France at the IMF in those years, 2022/1962, 141). In fact, Goudriaan developed the idea earlier in publications in Dutch. The influence of Goudriaan's ideas was strong, especially on Dutch-speaking economists, among them the Indonesian economist Khom Bian Tie (1953) and later Jan Tinbergen.

> "It is therefore important that we should seriously reconsider alternative systems which preserve the advantages of an automatic international standard with freedom from the special defects of gold" (Hayek, 1943, 177).

The new international monetary standard and the stabilisation of international prices is based on the issuance of money against warehouse receipts representing a basket of basic and demand commodities.

The weights in the basket are expressed in physical volumes, the constant convertibility of the money in this basket at a certain rate is guaranteed. Convertibility is at the basket level as a whole. According to Hayek,

> "In this respect the different commodities would be connected with money not in the way in which gold and silver were connected with it under bimetallism, so that a unit of money was obtainable either for a fixed quantity of gold or for a fixed quantity of silver; but rather as if (according to the plan suggested by Alfred Marshall under the name of "symmetallism") only the price of a certain weight of gold and a certain weight of silver together were fixed, but the price of each metal by itself allowed to fluctuate" (Hayek, 1943, 179).

Or:

> "In this respect the aim of the proposal is similar to that of the " tabular standard " or the " index currencies," which were at one time much discussed. But it differs from them in its direct and automatic operation. It is at least doubtful whether the price level of any selection of commodities could be effectively kept constant by deliberate adjustments of the quantity of money. But there can be no doubt that the aggregate price of the selected raw commodities could not vary so long as the monetary authority stood ready to sell and buy the commodity unit at a fixed price. [...] So long as it stood ready to buy commodity units at a fixed price in its national currency, any money thus issued to the producers of raw commodities would be of no use to them except for buying the products of the country to which they had sold their raw produce" (Hayek, 1943, 180-181).

Keynes immediately reacted to the publication by denying "the dictates of international money" in brief remarks in the same issue (Keynes, 1943 and later Keynes, 1944)[4] . According to him:

> "The fundamental reason for thus limiting the objectives of an international currency scheme is the impossibility, or at any rate the undesirability, of imposing stable price-levels from without. The error of the gold-standard lay in submitting national wage-policies to outside dictation. It is wiser to regard stability (or otherwise) of internal prices as a matter of internal policy and politics. Commodity standards which try to impose this from without will break down just as surely as the rigid gold-standard" (Keynes, 1943, 187).

[4] In the second volume of the *Treatise on Money* (the empirical monetary analysis), Keynes makes a positive case for price level stabilization through a tabular standard. See recently Telles (2023).

For Keynes, Hayek's model is driven by the principle of the international monetary standard is rigidity, while according to Keynes the basic principle should be elasticity (at the national level).

> "The immediate task is to discover some orderly, yet elastic method of linking national currencies to an international currency, whatever the type of international currency may be. So long as national currencies change their values out of step with one another, I doubt if this task is made easier by substituting a tabular standard for gold. Indeed, the task of getting an elastic procedure may be made more difficult, since a tabular standard might make rigidity seem more plausible. Perhaps unjustly, I was suspecting Prof. Hayek of seeking a new way to satisfy a propensity towards a rigid system" (Keynes, 1944, 429).

The commentary on Hayek's article and the reaction to Keynes was followed by one of the authors of the commodity basket project, F. Graham (1944). According to F. Graham, the clearing union model can be combined with that of the commodity basket. Keynes reacted moderately, and even positively, to F. Graham's article (Keynes, 1944).

As part of the discussions for a new monetary order held at Bretton Woods[5], B. Graham published a book specifically on the international aspects of the *World Commodities and World Currency* plan (1944)[6] .

Graham presents his RBIC project in synthesized form:

> One of the central elements in our proposal is that a commodity composite (though not the separate components) shall have the monetary status of gold, and thus function as the equivalent of an additional world currency. This mechanism is by no means indispensable to any international plan for stabilizing the price level of basic raw materials as a group. (Graham, 1944, 14)[7].

The author logically derives international resource money from the need to stabilize prices and production of structurally determining commodities, and through it to influence the global economy and employment. Resource stocks are seen not just as a technical measure, but as a philosophical principle related to the protection of the nation in war or peacetime natural disasters. The advantages of stockpiling basic commodities and essential goods are superior to the technique of stockpiling only in the form of gold.

Graham thinks 15 items are enough, but you could go up to 25-30 (in one model he selected 23 items). The weights of the individual commodity items should mostly reflect their presence in exports as well as in the production of a zone (or the world economy). The simulations the author proposes for 1937 include 62.40% agrarian products (wheat,

[5] Her book dedicated to F. Graham "To FRANK DUNSTONE GRAHAM, Comrade-in-arms" (Graham, 1944, v).

[6] B. Graham (1894-1976) was a multifaceted personality, a pioneer in many fields, including investment analysis. Frank Graham was a professor of economics at Princeton (1990-1949).

[7] Graham puts it this way : "It proposes to accord to a composite group of basic commodities exactly the same monetary status as was formerly given to gold" (Graham, 1937, 59).

corn, cotton, wool, rubber, coffee, tea, sugar, tobacco), and 37.60% non-agrarian (petroleum, coal, wood pulp, pig iron, copper, tin). According to his (and Goudriaan's) calculations, the required stocks represent about 1/7 of annual production (i.e. 3-4 months of annual supply). This volume is quite sufficient to stabilize prices. The author sees the scheme as part of a new international architecture:

> "An international agency-say, International Commodity Corporation (ICC)-will purchase, hold, and sell primary commodities on a composite or unit basis. [...] The corporation will best operate as a subsidiary of an International Monetary Bank or Fund (IMF) from which it will obtain its capital. [...] The commodities will be stored in the first instance in the country of purchase. Creditor nations of the IMF will have the right to take; over and hold physical possession of an appropriate amount of commodity units, with the provision that they defray the storage expense. [...] Nations holding deposits with the IMF, who thus have helped finance the purchase of units, should have the privilege of holding up to an equivalent amount of units in their own custody. [...] The corporation will obtain its funds by sale of its notes to the IMF. The IMF in turn will hold these notes as reserve assets against its liabilities, which will consist of deposits and capital stock held by the central banks of the participating nations. The financial transactions involved in the corporation's operations will be similar to those resulting from international trade generally. [...] Transfers may be made in the first instance by credits and debits to the central bank account on the books of the IMF. In essence, purchases by the corporation will be equivalent to exports from the vendor nations to the financing nations". (Graham, 1944, 42-47).

The model aims to stabilize the basket price through the two-way exchange rate between the basket and money. An important point is that we are talking about a composite price index, not prices of individual products. The functioning of the market mechanism continues to determine the movement of individual, relative prices within the basket (Graham, 1944, 51, 62). The stability of the overall price index of strategic commodities is automatically and rapidly transmitted to the overall price level (Graham, 1944, 78). The proposed scheme helps to increase the incomes of producers of the commodities that enter the basket (similar to the incomes of producers of gold mines in a pure gold standard regime) (Graham, 1944, 51, 63).

The emission and destruction of resource money follows closely the dynamics of the real economy, it is endogenous and sets the limits of the general price level. In this respect, B. Graham comes close to the basic ideas in Hayek's *Monetary Nationalism and International Stability* (1937). He is a liberal economist, sharing Hayek's economic philosophy.

> "We believe that this arrangement will assist greatly in stabilising both the monetary and the commodity structure of the world. Incidentally, it will make far easier the maintenance of whatever status is finally given to gold.

Commodity-unit currency is physical money. It belongs in the tradition and conforms to the discipline of the classic gold standard. Professor Hayek, long a vigorous defender of the gold standard, has pointed out that new conditions in the world call for a broader standard which will produce more rapidly and helpfully the compensatory effects upon the economy which had theoretically followed from the workings of the gold mechanism. [...]

The advantage that commodity-reserve currency on an international scale will give to all raw-materials exporting nations is obvious. Broadly speaking, it endows their shipments of these products with the status of gold exports. It is not necessary that a single country have complete commodity units for sale in order to benefit from the stable demand for the units. Each land can contribute what it has to offer; the impersonal and efficient machinery of the world's markets will combine into rounded units these offerings from many quarters. Since the value of each item is subject to variation there will be changes-now unfavourable, now favourable-in the relative share of different products in the combined selling price. As long as production of the components is kept in fairly sound balance there should not be any disturbing revolutions in the economic position of one against the other. Of overshadowing importance is the fact that balanced expansion in all the items collectively can proceed unabated without the familiar and disastrous consequences of price collapse. "(Graham, 1944, 97-98).

III International Resource Money and the Reform of the World Monetary System (1945-present)

Despite the creation of new institutions within Bretton Woods, the state of Europe after the war was catastrophic. There were no mechanisms to revive trade and payments; exchange took the form of bilateral clearings and barter schemes. In 1949, the US launched the Marshall Plan, and blockade and sanctions were imposed on the USSR and the new socialist countries. But this backdrop revived discussions in Western countries about a new monetary order to overcome the hunger for dollars and for gold. In 1949 F. Graham died, and B. Graham shifted to the topics of investment strategies. At the same time critical reactions to the resource money model continued and even intensified, they became more technical[8] .

Debates in the 50s and 60s, the contributions of Jan Goudriaan and Albert Hart

In 1948, in articles by Rosensen (1948) and Calsoyas (1948), the MRP model came under moderate criticism. The authors noted two problems, -these stemmed from difficulties in choosing the basket structure, the weights of individual items, and the supply and demand elasticities of individual goods. Calsoyas gives examples of the asymmetric impact of the model on individual countries, resulting from different individual supply and demand elasticities. An asymmetric shock along the system (i.e., on only one industry,

[8] Bearle, Kennedy and Winn (1942).

i.e., on one item in the basket) leads to complex effects both on the structure of the basket price index (through movements in individual prices and volumes) and on the transmission of the basket price to the overall national price index[9] .

Milton Friedman's (1951) position is interesting. While agreeing in principle with the model and sympathizing with it, he believed that the opportunity costs would be large. It is needed a broad market for the basket products, which locked in a long-run large stock needed for growth. In addition, Friedman thinks people will have a hard time accepting it and there will be no political support. Automaticity of equilibration would only work under conditions of full liberalization of foreign trade.

> "The commodity-reserve scheme could operate internationally and produce stable exchange rates if, and only if, the various countries were willing to permit complete free trade in the commodities and to submit their internal monetary and economic policies to its discipline. Compared with a gold standard, commodity-reserve currency has one significant technical advantage-its greater potential capacity for offsetting cyclical movements in income, production, and employment. For the rest, the two standards are technically nearly equivalent. Both rest on a relatively narrow and unrepresentative base and so could themselves be the source of fluctuations in the price level. Despite its somewhat broader base, available evidence suggests that a commodity-reserve standard would be at least as unsatisfactory in this respect as a gold standard. Both require the use of resources to provide for secular growth in the stock of money and so give an incentive for the intro- duction of fiat money. Both could be international standards with fixed exchange rates between countries" (Friedman, 1951, 231-232).

For Friedman, the most appropriate model remains that of fiat currencies, which is not only technically cheaper and more convenient, but can be constructed to mimic the pure gold standard. The author proposes that their volume should be fixed, linking them to the dynamics of the budget, and that their issue should be carried out solely by the Treasury.

Of particular interest is Jan Goudriaan's post-war study *Vers une technique monétaire rationnelle*, published in the French journal *Economie appliquée* (Goudriaan, 1966). In this extensive piece, Goudriaan takes stock of the state of the resource money debate after the Second World War, as well as of his experience as head of the UN Special Commission.

In general terms, Goudriaan positions himself as a *realist* and an empiricist (technician) in the field of money. He criticized various forms of *monetary nominalism*. For Goudriaan, money is a product of human activity; it is not "a deliberate and premeditated act [...] The time has come to shape money according to human needs, as they are more or less generally recognized ." (Goudriaan, 1966, 35). The choice of a monetary regime must be based on millennia of practice in monetary relations.

[9] Similar criticisms related to the elasticity of agricultural commodities are found in Johnson (1956).

He discusses in turn the problems, first of a closed economy, and second of the existing international economy.

In a *completely closed economy*, the introduction of paper money is perfectly logical (argument for the existence of national sovereignty, etc.). In order to maintain their credibility, full monetary centralisation and policy in the hands of the state is needed (discount or open market policy, etc.). Various schemes are crucial to maintain the prices of agricultural commodities, and to compensate their producers. The agricultural sector has a direct impact on the industrial sector. The author thinks in terms of a two-sector model where the basic equilibrium has the following form

(1) $p_1 v_1 = p_2 v_2$

Where p_1 и p_2 are the price indices for agricultural and industrial products, respectively, and v_1 и v_2 are respectively the indices of transaction volumes in the two sectors. Obviously, a fall in prices p_1 will have little impact on agricultural production v_1, but it is also clear that a general fall in $p_1 v_1$ requires a decline in the industrial sector $p_2 v_2$. Given the rigidities of wages and costs in the industrial sector, - inevitably there is a reduction in the volume of industrial transactions v_2 which leads to unemployment in this sector. According to the author, the relationship (1) is basic for the monetary economy. It links the agricultural sector directly to the monetary regime:

> "We don't realize that fixing a stable price for every agricultural product means at the same time creating a new monetary standard [...] In fact, we are making monetary policy without knowing it, a bit like Mr. Jourdan was saying in prose. [...] In fact, it could be argued that an important measure to stabilise prices is the creation of a new monetary system [...] Furthermore, a monetary policy conducted against one's will and in an inconsistent manner can never lead to a rational solution. The question therefore arises of harmonizing empirical agricultural policy with the enduring requirements of rational monetary technique." (Goudriaan, 1966, 40-41).

A policy of price stabilisation divorced from output and productivity stabilisation is a major flaw of nominalist monetary theory. Linking the monetary standard to a basket of agrarian commodities makes it possible to avoid lobbying by pressure groups (formed by product), since individual commodities will have negligible weight in the basket. In fact, there need not be many commodities in the basket, it is sufficient that their prices are weakly correlated. [10]

The determination of the "long term" basket price at which it is bought should be updated periodically from 3 to 5 years, depending on stock dynamics. If stocks fall, prices should rise, and conversely, if stocks rise, prices should fall. Goudriaan looks at products such

[10] In a mathematical appendix, the author shows that an increase in the number of goods leads to a neutralization of individual price movements. Mathematical formalizations of the model are rare. Among them are also Frommer (1945), who proposes a formula for optimal basket formation, and Luke (1975), showing the stability of a general price index within the basket that overcomes inflation.

as grain, cotton, flax, sugar, coffee and cocoa. Although in earlier years (1966) he had also included iron, metals, coal and oil, he felt that these were no longer necessary for the commodity monetary aggregate. The commodity money mechanism is a guarantee against deflation in a separate isolated economy:

> "The general conclusion that is called for is this: by depriving commodities of the monetary function that logically belongs to them, these same monetary properties have a detrimental effect on their prices. The instability of commodity prices is therefore not a natural and respectable phenomenon; it is an artificial quality created by a defective monetary system. In mathematical language, this is written as follows: a rational monetary standard must be a symmetric function of commodities suitable for monetary use; any exception to this symmetry creates an essential defect. Or, to use a metaphor borrowed from mechanics, - a monetary standard with a stable value means that the center of gravity of the prices of monetized goods is at rest. It is therefore necessary to create this desired rest, by a well-chosen definition, by fixing the external base at this center of gravity. (Goudriaan, 1966, 45-46).

In other words, the unstable areas, the unstable equilibria, should be sought out and subject to monetary fixation[11]. At a concrete level, this means finding the unstable markets in an economy, and it is *the products of these unstable markets that are given monetary status*. This is done by controlling their prices.

> "On the other hand, sudden changes in volatile prices affect the purchasing value of money without the slightest change in the monetary sector itself. This simply means that there will be a problem in the monetary system until the impact of the lack of cohesion between the monetary sector and the sectors of unstable equilibria is prevented. This intolerable situation must be corrected by creating for each unstable sector new, almost automatic means of direct and immediate intervention. Self-perpetuating deviations from unstable equilibria are so harmful to the general interest that we must learn to nip them in the bud." (Goudriaan, 1966, 49)

In his study, Goudriaan does not hesitate to refer to Marx, and his formula of commodity circulation (*Commodity - Money - Commodity*), as well as to emphasize the cybernetic nature of the model (the presence of feedback).

> "Finally, in terms of economic dynamics, we can write the circulation diagram (extending Marx's and thus getting closer to reality):
>
> *Liquidity - Commodities – Claims – Biil of exchange - Liquidity*
>
> If this circulation stops and if (temporarily) unsold goods start to pile up, make a short circuit:
>
> *Commodities - Liquidity*

[11] Here, Goudriaan refers to the ideas of the French economist Emile James (1899 - 1992).

and you will give a new boost to the weakened circulation and vice versa. This is none other than the principle of negative feedback, generally recognized as the basis of all intelligent regulation" (Goudriaan, 1966, 46).

After the analysis of the problems in a closed economy, Goudriaan turns to the international application of the model. Here, the problems of the transition from national to international liquidity as well as balance of payments crises become central.

In the beginning, Goudriaan defines the zones of instability of the international economy. According to him, they are four - (i) the collapse of export prices in monoculture developing countries (ii) the rise of export prices in competing countries when wages outstrip productivity (iii) the emergence of "wandering" short-term capital, undermining confidence in exchange rates and (iv) the shortcomings of the gold-dollar standard, which puts the two key currencies, the dollar and the pound (the 'Anglo-Saxon liquidity shortage'), at the centre of national problems. In the author's view, there has been no proper response from the international community to these four areas of instability. On the contrary, the instabilities are worsening, to which the IMF's policies are contributing (in 1965, 64% of circulation was accounted for by the US and the UK).

In the global economy, national political interests also matter. Goudriaan provides an interesting explanation of the theoretical and practical positions taken by economists in different countries:

> "It is clear that the key currency gives certain advantages to the issuing country. The latter receives real goods or services and gives nothing real in return. It gains in the international sphere purchasing power well above the value of its exports. The issuing country thus also gains political power; it develops as a financial centre that makes international financing decisions in excess of its own capabilities. Aware of these economic and political advantages, it is easy to understand the tenacity with which the British and Americans defend their acquired position as world financial centres. Consequently, they judge any proposal to reform the world monetary system primarily and almost exclusively by the impact that reform will have on the prestige and international position of the pound and the dollar" (Goudriaan, 1966, 53).

Further, Goudriaan argues that every financial centre has two dimensions that are often conflated - namely (i) that of a clearing house for international payments and (ii) that of a source of international funding (here, for Goudriaan, are the main instabilities)[12] . Or :

> "Apart from the obvious flaws in the technique and the lack of vigilance shown by the relevant monetary authorities - it appears that the very existence of key currencies in the long run is incompatible with economic growth and global cooperation based on democratic principles. We cannot tolerate indefinitely that one rich nation seizes the

[12] Similar to Triffin's dilemma.

wealth of others without compensation in real wealth, nor that there is a single centre of national power in the financial world that wants to dominate everyone else.

The analysis made so far clarifies why almost all the contemporary literature on international liquidity is of Anglo-Saxon origin and why this literature is exclusively concerned with the means of increasing paper, fiat circulation. These economists are opposed to any effort to consolidate the position of gold in international circulation and categorically reject the possibility of supplementing gold with commodities" (Goudriaan, 1966, 54-55).

Goudriaan criticizes "paper currency economists/“économites de papier“, nominalists", among whom he places one of the initiators of the SDR, R. Roosa, and R. Harrod and R. Triffin:

"We can summarize the main features of the current controversy: the protagonists of the paper money defend their own interests first. They accept international politics only insofar as their national interests are well protected and, if possible, this in a stronger and more secure way. It will always be impossible to create paper, fiat money without giving the rich countries the advantage, because paper money is mostly credit money, and credit is always on the side of the big, strong and rich. One man's gain, however, is another man's loss" (Goudriaan, 1966, 58-59).

For the Dutch economist, the creation of a supranational monetary authority, an international government, etc., is impossible, and attempts to do so are unnecessary. The institutional rule governing the relations between national economies should be the following:

"Only one principle can be applied to reach an international agreement: a minimum constraint on the States involved: a minimum discretion for an international executive" (Goudriaan, 1966, 61).

In practical terms, Goudriaan proposes to form four groups for international monetization, initially subdivided into groups, and subsequently brought together in a common aggregate, the basket: (i) tropical and subtropical agricultural products (ii) temperate zone agricultural products (iii) livestock products and (iv) non-ferrous metals, i.e. excluding iron. Their weights and prices will be reviewed periodically (three to five years).

Goudriaan also provides an answer to the criticism about stocks/inventories, transaction costs, etc. According to his calculations, optimal inventories will not exceed the normal practice of commercial inventories, since price fluctuations will not be significant. The author also does not overlook the argument about the weak elasticity of demand for the goods in the basket. He notes that elasticities are high in developing countries, precisely those that will be at the centre of the model, and which are poised to gain. There, food is in high demand with a clear trend towards increasing hunger.

In the second half of the 1960s, and especially in the 1970s, the topic of resource money was first reactivated in the UNCTAD/UN report by Albert Hart, Nicholas Kaldor and Jan Tinbergen, published in January 1964 (*Hart - Kaldor - Tinbergen plan*), as well as in articles by Hart (1966, 1976) and Kaldor (1981, 1986).

Albert Hart[13] , focuses on clarifying the applied points in the model, and especially on determining the cost of maintaining inventories. He gives alternative calculations to those made by Grubel (1965)[14], a strong critic of the model. According to Grubel, the costs for 1966 (expressed in 1964 dollars) are in the range of $12-20 billion, and for the period 1968-2000 accumulate to $185 billion (with a 4% annual growth in liquidity needs). In turn, Hart arrives at numbers in the order of 4.5 billion, and a build-up of 60 billion over the period 1968 - 2000 (Hart, 1966, 239).

Ten years later, after the collapse of Bretton Woods, Hart repeated the cost-benefit calculations (Hart, 1976). The task was to specify and recalculate the gross and net costs of maintaining the system[15]. Hart calculates the total costs; they turn out to be low again. What is more interesting here is the detailed methodology. Costs are reduced to costs (i) of maintaining inventory stores for individual commodity items (ii) related to foregone interest benefits (which are not large, according to inflation). As well as costs: (iii) for the construction and operation of the marketing infrastructure, collection of price and stock information per item by experts, (iv) arising from maintaining the quality of stocks (spoilage/deterioration, etc.).(v) potential diversion from current consumption, and finally, (vi) costs in critical and crisis situations, when some of the goods will be withdrawn from stock and consumed by the State (with the condition that the State will restore them after the crisis has passed).

In extreme situations, when there is a shortage of a commodity and the bank has to buy the basket at that moment, the solution is a well-developed futures market. Spot and futures prices alone will regulate temporary shortages. Hart thinks it will reduce the need to maintain other forms of inventories, and that it will create employment in underdeveloped countries.

According to the author, there are risks of governments breaking the agreement with the Resource Bank to start withdrawing certain, momentarily problematic resources.

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[13] Albert Hart (1909 - 1997) was a professor at Columbia University.

[14] Grubel defines the RBIC as "This plan is claimed to solve not only the shortage of world liquidity but also many of the problems of underdeveloped countries by reducing business-cycle-caused fluctuations in the demand for raw materials and by stabilizing the terms of trade between primary products and manufactured goods" (Grubel, 1965, 130). Gunter Grubel (1934) is a Canadian economist of German origin, specializing in international economics.

[15] The author shows the advantages of resource-based issuance of additional liquidity (within the IMF system) over the approach proposed in 1975 by UNCTAD to control the supply of resources by limiting their production and export quotas of producing countries (*Integrated Programme for Commodities*).

For his part, Grubel stresses the dangers of the political cycle, "time inconsistency" and especially the rule of populist governments that can compromise the functioning of resource money.

> "Within only thirty years the Commodity IMF purchases will be valued between $30 and $40 billion annually. More important, however, the commercial power of the Commodity IMF will be without precedent in world history. There exists a real dilemma in the choice of an organizational form for the Commodity IMF directorate. Very detailed, fixed operating procedure will make the institution un- wieldy and unable to adjust quickly to unforeseen contingencies. Under these circumstances, serious hardships could be inflicted upon economic units in the minority even though they had believed that their rights were protected when they agreed to the original charter. The alternative organizational form leaving more decisions to human judgement runs the danger of concentrating enormous power in the hands of a few. Only minor shifts in policy or favour can bring fortune or disaster to private business firms or even entire nations" (Grubel, 1965, 133).

And further :

> "In sum then, if the Hart-Kaldor-Tinbergen plan works properly and increases world liquidity at the required annual rate of 3-4 per cent, it will, as the computations show, very soon lead to an enormous concentration of economic power and to a substantial absorption of the world's productive resources. These costs are disadvantages of the plan which must be weighed carefully before it is put into effect." (Grubel, 1965, 134-1935).

According to Hart, the argument for the existence of the giant power is refutable because of the fact that the bank will operate under a regime of predefined rules rather than discretion. In contrast to Grubel's critical assessment, Hart argues that the model will stabilize as an institution, i.e., it will find its optimal parameters, stock, basket rate (redemption price), etc. (Hart, 1976, 30).

At the beginning of the 1990s, a new wave of revival of the idea of RBIC emerged within the IMF (in the choice of the methodology of constructing the SDR, the idea of the "Hard SDR"), as well as around the choice of a model on which the European monetary system and the common money - the ecu - would develop. In a certain sense, it was about trying to replicate the proposal of the UK and British economists to launch a hard ecu to circulate together with national money, and eventually, after a selection process, to impose itself as a common currency.

For example, IMF economist Subhash Thakur analyses the options of "rolling back" the SDR and "searching for a fixed benchmark"[16] .

> "In a world of generalized floating of major currencies, the most meaningful definition of a hard SDR would be in terms of maintaining the hard SDR's purchasing power over goods and services. At a technical level, this can be done in a number of ways. For instance, the hard SDR could be defined in terms of a basket of commodities, with an agreement on the

[16] See also IMF, Coats (1989).

commodity price quotations to be used in calculating its value in terms of currencies. The major difficulty with such an approach, however, (as noted in Section I) is that the markets for individual commodities are, in the short as well as the medium term, subject to several special influences, including speculation, which result in their prices deviating, often sharply, from the general price level. The price of a collection of primary commodities would tend to be more stable than that of any single commodity, but still less stable than a general comprehensive price index, such as a consumer price index or GDP deflator. " (Thakur, 1994, 479-480)

In the same vein are the publications of Richard Cooper (Cooper, 1987 [1982], 43-86[17]). Considering commodity currency in a broad historical perspective, Cooper is generally positive about the idea. He believes, however, that it carries a number of drawbacks, one of which is the unclear relationship and transmission mechanisms between the basket price index to the general price level. In his view :

> "Such proposals have found little interest beyond intellectuals. I suspect that conservatives really want gold, for reasons of history and sentiment, whereas nonconservatives prefer managed money. Also, the schemes are basically too complicated to appeal to a wider public" (Cooper, 1987, 75).

But let's go back to Jan Goudriaan, who ends his 1966 study by saying:

> "France gave the world the metric system, a pure product of reason, in the then chaotic environment of weights and measures. It sometimes seems to me that in the monetary field, France has the similar task of propagating a rational system, regardless of the interests that dominate at the time" (Goudriaan, 1966, 74).

This brings us to France, where an interesting discussion about the commodity money model was unfolding. In contrast to the traditional analyses, in France considerably more "heterodox" economists are involved, including those with a left and even Marxist orientation.

IV International resource money and the contributions of French economists

In fact, not only the French "inclination to rational thinking" but also the very economic and monetary conditions of France suggest a fertile ground for the spread of the idea of RBIC. France finds itself short of international liquidity, while at the same time possessing vast colonies whose material resources must be mobilized and valorised. Later in the 1960s, France initiated monetary and payment schemes to link with the new independent states (mostly in Africa).

Undoubtedly, in France, it all started with *Louis Fizaine (1888-1967)*, a textile industrialist from Nancy, in his book *Crise et Monnaie* (1933), - the result of his independent efforts to find a solution for the deflationary crisis. Fizaine was a strong influence on Jean de

[17] Richard Cooper (1934 - 2020), pioneer of international political economy, part of the team of Presidents Kennedy and Carter.

Largentaye[18] , who in turn helped develop the idea from Pierre Mendès France. Fizaine's idea appeared in 1931 on the pages of French newspapers and magazines, as a model of the "*monnaie octométalique*" (of eight metals, - gold, silver, nickel, tin, aluminium, copper, zinc and lead). It is supported by important personalities such as Francis Delaisi, Paul Reynaud, Henri Clerc, Joseph Dubois, Georges Guillaume and others.[19] Fizaine's model is interesting not only from a conceptual point of view, but also as algebraic and graphical examples of how the basket price is calculated and how it changes under the influence of demand movements, supply and prices of individual metals, or combinations of metals.

For the author, commodities are basically divided into two groups - commodities in general (*marchandises générales*) and monetary commodities (*marchandises monétaire*), whose value is chosen arbitrarily as a means of comparison and measurement (Fizaine, 1931, 17). As the number of monetary commodities increases, the price index of the monetary benchmark approaches the general price index (that of commodities in general). Fizaine studied the influence of money standard prices in different monetary systems (monometallism, bimetallism, simetallism, trimetallism and octometallism). Particular attention is paid to octometallism, to compensation within the index (its general stabilization), and to the impact of this regime on smoother cyclicality and the softening of crises (inflation and deflation), as well as on exchange rate and balance of payments dynamics.

Fizaine also lays out the criteria by which monetary commodities are selected (Fizaine, 1931, 101-109). The eight metals are eventually arrived at. Such important products as petroleum, mercury (difficult to transport), precious stones and crystals (not divisible), agricultural products (cannot be produced quickly, low elasticity) and strategic metals, uranium for example (many are rare), etc. are dropped. Petroleum, despite some drawbacks, could become a monetary commodity in the future, but it has to start with metals. Storage techniques, the siting of warehouses and the protection of property rights are also specifically addressed. As well as the role of the Banque de France in intervening in the money market (*l'organisation du marché des marchandises monétaires* (Fizaine, 1931, 147-167). The system was intended for the liberal economy but had a universal character, Fizaine concludes.

> "Such a monetary law (which would preserve, by the way, its advantages in different systems of a dirigiste economy) would have an extraordinary flexibility and would by all appearances help to reduce the frequency and amplitudes of cyclical price movements,

[18] In the book devoted to Largentaye, correspondence with Louis Fizaine from 1933, 1966 and 1967 is published (De Largentaye, 2022, 214-218). The idea is also partly to be found in Georges Boris (1931), who proposed that the Banque de France should intervene on the commodity markets, and later the creation of a *Banque internationale de matières premières*. Fizaine argued with Boris about the paternity of the idea (Fizaine, 1933, 178-187).

[19] In 1946, Fizaine published *Dirigisme ou automatisme ?: Un système qui fonctionne sans fonctionnaires, which* collected reviews of his book, letters, and excerpts from his lectures.

and to overcome the crisis which is claimed to be inherent in the liberal economic regime. This crisis seems to be due to the absence in our economic machinery of an economic stabilizer, gyrostatic in a sense, which, that is our present monetary system" (Fizaine, 1933, 172).

A decade later, at the Bretton Woods conference, the French delegation proposed a monetary stabilization plan (published in 1943) and prepared mainly by Hervé Alphand and André Istel. The idea of a transitional monetary system (towards the restoration of the international gold standard, with certain conditionalities) is put forward[20]. An important element is currency swaps (in national currency) between creditor and debtor countries. As a counterpart to the amounts that creditors hold in debtors' money, debtors are obliged to maintain 10 to 30% collateral within an international stabilization monetary fund[21] , and this collateral will be in the form of real resources - commodities, raw materials, etc (French Plan, 1943, 100). The aim is to create a form of additional liquidity backed by resources. The following quotation is significant, where the need for synchronous management of cash and resource flows is stressed:

> "(a) Commercial treaties should be concluded permitting a rational distribution of productive activities among nations. Such a distribution ought to take into account the natural resources, the geographic and demographic conditions, the level of education as well as various other elements of the cost of production; it ought furthermore, to take into account the creditor or debtor situation of the balance of payments.
>
> b) Certain regulatory measures of an international character should be adopted, designed to stabilize business conditions and to reduce as far as possible the swing of economic cycles. These measures ought to have a double character: they should operate on the one hand, on the volume of instruments of payment or of credit, in order to adapt them to needs; they ought to operate on the other hand, directly on the volume of goods in order to adapt them to outlets. This latter action should, itself, be of a double character: on raw materials, by some kind of regulatory action on stocks and output; on finished goods, by methods devised to accelerate or slow down the rhythm of production" (French Plan, 1943, 98).

Of the French economists who advocated the RBIC model at the highest political level was Pierre Mendes France (1907-1982) (PMF), prime minister (1954-1955) and minister, head of the French delegation to the Bretton Woods conference. Since the 1950s Mendès France had been developing the idea of an RBIC, and in 1974 in interviews collected in *Choisir. Une certaine idée de la gauche*, discusses the proposal at length (Mendes France, 2007 [1974], 156-283/ref MF (2007). PMF links the crisis of natural resources (in this case oil) to that of the international financial system. PMF derives a model from the

[20] See Bordo and al. (1994).

[21] Interestingly, this fund resembles in some respects the proposal of George Boris (1932) for a *Banque Internationale de marchandises premières*. Georges Boris (1988-1960) was a highly influential economist, advisor to the PMF and Du Gaulle, in different years (Crémieux Brilhac, 2010).

need to shift to a new type of growth based mostly on production and on the basis of energy saving, and not so much on exchange and money. And further, - the value of money must be linked to the value of natural resources, it must be studied by studying the processes of energy (PM, 2000, 174-175).

The PMF addresses the constraints coming from the gold, gold-exchange and gold-dollar standards. Despite the French's sympathy and nostalgia for a gold standard (De Gaulle's and J. Rueff's attempts to return to gold), gold does not reflect economic realities. In fact, -why choose this commodity and not another?(MF, 2000, 177). PMF notes:

> "In any case, for a national currency, managed by national authorities for national purposes, and to ensure national prosperity, to be held up as an international benchmark, and its fluctuations, its oscillations, its failures reflected on the whole world, - is neither logical nor acceptable" (MF, 2000, 183).

The gold-dollar standard system leads to the emergence of short-term and to moving “wandering“ hot capital. These impact speculatively on expected exchange rates, and hence to the accumulation of foreign exchange reserves far in excess of those needed to service trade and current payments.

A new anchor for the international monetary system is needed:

> "In reality, a monetary system, but which is not always understood, - must have an anchor/pivot, a fixed point against which the other elements will define themselves. The fixed point, or what you say, the reference, is the monetary standard. That's the role that gold has played; we've already talked about. I have shown you how little gold is representative of economic life, if only because of the fact of its small world volume and its characteristics. Something less specific and which better reflects transactions, activity and production must be found, because money must serve precisely by serving them contrepartie and allowing them to pay. It is in this direction that the solution must be sought ." (MF, 2000, 189).

The anchor for money must become the commodities that money buys ("There is no monetary life other than economic life, and the rigidities are found at the level of the bonds that connect them" (MF, 2000, 198)). As for the SDRs created in 1969, they reproduce the shortcomings of paper currency and have no real basis (this is "capitulation to the problem of sound money"). SDRs represent a transfer of US liabilities to the IMF, SDRs are inflationary. PMF quotes its French colleague, the politician Michel Debré, who says that "SDRs are an institutionalization of anarchy and of the right of the stronger" (MF, 2000, 198)[22] . What is to be undertaken?

The PMF proposes to introduce cash stocks based on basic commodities alongside gold. Among the known and well identifiable commodities (20 to 30 in number), the PMF lists lead, tin, copper, iron, textile fibres, rubber, as well as cereal and animal commodities

[22] Michel Debré (1912-1996), Prime Minister of France (1959-1962).

such as wheat, maize, meat, sugar, coffee, etc. These resources form a basket whose price index (representative of the general price index and of the movement of the international trade conjuncture) is guaranteed by a specific institution (the IMF, which should be reformed). The purchasing power of the basket taken as a whole is guaranteed. Within the index, individual prices move, with the weights of products being periodically revised (depending on their weight in trade, with some products dropping, others entering the basket). The index is transparent to the population, its movement is publicly monitored. Technically, vouchers are issued against the basket and the stocks themselves are held by private, public and international organisations (MF, 2000, 200-203). Who benefits from the model?

Developing countries' terms of trade stabilize, their goods become sought after by industrial countries (every issuer wins, in principle). This boosts production and productivity in poor countries, and against increased imports they can increase their imports of machinery and technological output. That is, the developed countries also benefit from greater external demand.

The question of transnational corporations (TNC), which are owned by developed countries, and which are manipulating the production of raw materials in developing countries, remains open. The PMF does not answer the question of how the above-mentioned harmful influence will be overcome. For him the biggest obstacle to the new institution, is the psychological barrier, the "routine of thinking" (MF, 2000, 207).

Overall, PMF's positions are of utmost importance to the debate in France because of its political commitment and reputation as a visionary. Particularly active is the magazine *Tiers-Monde*, in whose pages a series of articles on the subject appear. Gabriel Ardant (1966) ,[23] puts the subject as follows :

> "A number of problems of the modern world, the problem of international trade, the currency (monetary) problem, the problem of the growth rates of the major "Western" countries, the problem of commodity price volatility and the problem of underdeveloped countries are too often seen and treated in isolation. But all these problems are closely related, and by solving some we can try to solve the others" (Ardant, 1966, 115).
>
> "Besides, at the end of the day, what do countries that are trying to export more than they import want? They want to get money, money with international value, money that allows them to buy in any market. This international money is rare. " (Ardant, 1966, 118)

Commodity money puts an automatic brake on inflation, while at the same time being a powerful tool against deflation (Ardant, 1966, 123). They stabilize the exchange rate of the commodities they export to poor countries (Ardant, 1966, 131). The main problem, according to Ardant, is the formation of the prices with which the individual commodities enter the basket (these must be determined by experts):

[23] Gabriel Ardant (1906-1977), economist, close associate of PMF.

> "The price set should be as close as possible to that which in the long term can ensure the balance of supply and demand. Determining this price is difficult, but it is still possible to rely on current data. Moreover, it would be advisable to provide for periodic review, a review which would not cause sudden fluctuations but only a bending of the long-run price curve" (Ardant, 1966, 128).

The financing of a system has two solutions, - through contributions of the parties involved, - or through a fee for the creation and destruction of the resource money, which is collected when it is bought and sold (Ardant, 1966, 132).

Unlike other authors, Ardant also envisions a mechanism for national money to be pegged to the new resource money, through an exchange rate regime appropriate to each country's circumstances. He believes that this model, can be applied to the CFA common currency area in Africa, and to the European Economic Community (Ardant, 1966, 133, 138).

Let us turn to *Jean de Largentaye* (JdL)[24] , whose texts on the subject are collected in de Largentaye (2022). Although he translates and prices Keynes, JdL believes that Keynes's theory is only valid under fiduciary money. According to the French economist are organically unstable. Keynes did not create a complete theory, but a model of the functioning of discretionary fiduciary currency. According to JdL, fiduciary money and its active management lead to the following three unacceptable alternatives - (i) inflation, (ii) deflation and unemployment, and (iii) dirigisme, i.e. authoritarian planning. The JdL is close to the postulates of the classical school and Austrian monetary analysis[25] .

The centre of the problems is the monetary regime, the monetary standard/benchmark. In his extensive report, JdL provides a comparative analysis of the effectiveness and costs of different monetary regimes, grouping them into two broad categories, ordered by degree of fiduciary (2022/1965, 577-634).

In the first group, called "intangible standards" (*de nature incorporelle*), he placed paper currency, credit currency, and currency based on labour (labour costs). In the second group, "material by nature standards" (*de nature matérielle*), are included - the mono- and bi-metallic standards (gold, silver and bronze standards), and the standard based on a commodity basket (i.e. *x* kg copper + *y* kg zinc + *z* kg coffee + *t* kg wheat, etc.). In the above series, the fiduciary is deployed from 100% in the case of paper money, to 0% in the case of the resource basket.

The resource basket standard overcomes fiduciary currency imbalances by: (i) achieving an automatic stabilization of aggregate demand (including consumption) and employment by directly including or excluding resources from the basket, (ii) an

[24] Jean de Largentaye (1903-1970), translator of Keynes, participant at the Bretton Woods Conference, first French representative to the IMF.
[25] He was close to Jacques Rueff, corresponded with Hayek.

automatic equilibrium between saving and investment that has a commodity expression, and where saving pulls investment, rather than the other way around as implied in Keynes's model for paper currency, and (iii) solving the precautionary money demand problem, hoarding (which is formed when hedging against price declines). The model allows to stabilize the prices of the money standard and through it the general price level. In the long run, prices are linked to productivity, and savings and investment to the real (natural) interest rate, which is assumed to fall as the population grows. Internationally, equilibria also occur automatically and quickly, as fluctuations in the terms of trade, and in capital movements (including speculative ones) are minimized). JdL calls its model "organized clearing" (JdL, 2022/1965, 581).

Technically, the JdL model is not original (except that it suggests resource money become quotable currencies):

> "The use of benchmark-goods implies that a monetary agency receives as a deposit the entire set of goods of which the benchmark stands. This agency will provide certificates representing these deposits, certificates which will be denominated in this benchmark and freely transferable. The holders of the certificates could at any moment exchange these currency tokens for a quantity of the commodities (constituted as a standard) equal to their value. Obviously, the stock of monetary commodities would be more voluminous than the stock of gold, but they could be dispersed at the places of their production. The commodities that make up the benchmark would be traded freely in individual markets, analogous to commodity exchanges. *Prices would be quoted not in dollars or in sterling, but in the standard monetary basket*. The individual prices of monetary commodities will obviously fluctuate with their costs under the influence of technical changes, and sometimes temporarily under the influence of changes in demand, - and only for the time until supply recovers. The rise of some prices will be offset by the fall of other prices, in such a way that the price of the aggregate remains equal to one. If this price begins to rise, the arbitrageurs will buy these commodities on the free markets to sell them to the monetary agency" (JdL, 2022/1965, 557).

Fiduciary currency redistributes resources, wealth and power, especially unacceptable internationally, where the US and partly the UK, through their banks, create money in other countries and practically conduct monetary imperialism. Due to the systematic deterioration of the terms of trade and the chaotic movement of capital, underdeveloped countries suffer, they file into one of three configurations (inflation, deflation/unemployment or dirigisme). In order to protect themselves, their governments are forced to accumulate foreign exchange reserves, create state structures to support commodities, or resort to price fixing.

> "The credit-based standard is the most unjust because it concentrates in a few hands the power to acquire all kinds of wealth for free. [...] Internationally, it is the American banks that exploit, especially today, the issuance privilege - because capital transfers outside the US are free and, for the central banks of other countries, the dollar is directly convertible into gold. Thus, these American banks enjoy the power to create not only

> dollars, but also yen, marks, bolivars, and other money, ceding to the issuing banks of this money the dollars thus created for that purpose. Such a situation is incapable of developing equality of wealth among states" (JdL, 2022/1965, 606-607).

The JdL pays particular attention to the *cost of the resource money model*. He reduces them to three broad groups (i) money production costs (ii) money storage costs and (iii) inventory costs, paying particular attention to the financing models of inventory costs (JdL, 2022/1965, 623-630). He notes that while the first two costs are present in the other benchmarks (for gold these costs are visible), and there are also high social costs, the latter, - those of maintaining stocks/inventories, - are specific to the resource benchmark (they depend on the volume and frequency of replacement). Their level is lower even than those projected by B. Graham 2-3% of the stock. In any case, they are much lower than foreign exchange reserves in a fiduciary money regime (because less liquidity would be needed). Foreign exchange reserves under fiduciary money, on the other hand, actually represent the financing of advanced economies (JdL, 2022/1965, 624-626).

The cost of inventories can be seen as the price that must be paid to have a stable monetary system, i.e. to remove the costs associated with inflation, deflation (unemployment), and administrative intervention. Furthermore, giving a monetary function to the commodity stock, and linking the monetary function directly to the survival of society, will free up commodity and strategic stocks that each state accumulates in the event of war (JdL, 2002/1965, 629).

According to the JdL, the stock can be financed either through a commission fee to be collected from the cash institution that issues the stock certificates, bills. It would be even more logical, were a fee (in form of negative interest) introduced on the holders of this money, according to their volume and the period of holding[26] (JdL, 2022/1965, 627).

For JdL, the idea is irrefutable and has been worked on and recommended by "the best theorists of money and the most enlightened statesmen" (JdL, 2022/1965, 642). The main obstacle was the political and economic interests of the United States and the leading industrial countries, and the adherence of French economists to the classical gold standard. JdL recalls:

> "Ten years ago, I was able to convince my Belgian IMF colleague, who had talked about this idea with the Governor of the National Bank of Belgium, the distinguished and sympathetic financier Mr Maurice Frère, of the benefits of the benchmark. On reflection, Mr Frère confined himself to telling him : 'My young friend, if there is one piece of advice I can give you, *ne touchez pas au* grisbi'. Addressing a young banker with such advice (and the advice is undoubtedly good) makes us wonder what will ultimately happen to our countries if we take care not to *toucher pas au grisbi*" (JdL, 2022/1965a, 660).

[26] Resembles in some respects the Silvio Gesell's melting currency.

In *Tiers-Monde* in 1971 appeared the article by the French Marxist Suzanne de Brunhoff (1929-2015) (hereafter SdB). The resource money model, according to SdB, "preserves a certain freshness", in contrast to previous models, which were limited to technical modifications or to power, political changes between countries.

The first criticism of the SdB is the ambiguity of the institutional nature of the new currency, the lack of clarity of its emergence. The author adheres closely to the approach of Marx, according to whom money (more precisely the gold standard) is a spontaneous product of human activity, a centuries-old selection of gold silver from commodities, processes that cannot be reproduced artificially.

For SdB, the model also has fundamental methodological and policy flaws. First, proposals to introduce resource money at the global level (in all countries simultaneously), within the IMF framework, or some other configuration, - are unrealistic. The world economy is composed of geopolitical and geo-economic blocs that differ in their level of development, degree of homogeneity and interconnectedness. Within these blocs, the poor countries are asymmetrically located and are subordinated to different leading centres which have different mechanisms of capital accumulation (following Marx) (SdB, 1976, 528-529).

Second, the model suffers from basic unclarities about the nature, genesis and functions of money *as an institution*. Following Marx's approach, SdB argues that to become money, a commodity goes through a long process of social validation, valuation, and deriving value from economic activity. The transformation of commodity into money cannot be a discrete act (such an act can only take place in relation to the form of money). It does not easily become money, - for this it is necessary to reach a level of economic relations where money reflects the socially necessary costs of labour. (SdB, 1976, 530).

Further, - there is no clear distinction between currency, as the medium of final, ultimate payment, and credit. According to her, the voucher/certificate that is intended to be issued against the commodity, resource basket, and into which it is to be converted, is not money, but a type of *commodity credit*. Further, the rules under which vouchers can become a source of national currency supply are not clear.

> "The bills allow for the postponement of the settlement of monetary balances between countries, they are not themselves a means for this settlement. Their role is similar to that of currencies and differs from that of gold, taken as a 'universal currency', or from a claim by a possible World Central Bank. The confusion between currency (of final settlement) and bills is of the same type as the confusion between money and commodities. In both cases the forms and functions of money are poorly defined, and the concept of money is vague" (SdB, 1976, 532).

This leads to the fundamental problem of the functions of money, which are said to be reduced to a means of calculation, and a means of payment. It does not get to the leading and most basic function (within Marx's labour theory) - the measure of value/exchange

value. The model misses the mechanism of value formation (SdB, 1976, 532). According to SdB, the mechanism of the *social validation* of the commodity basket as international money is missing.

V Conclusion

Historical hindsight shows us that the idea of RBIC (or international commodity money) has always been alive. Like the structural crises of international economic relations, which as a rule manifest itself as monetary, resource, and geopolitical, resource-based money projects, in various configurations of countries, are becoming relevant today[27]. Global risks and technologies are changing, but the search for a new, substantive/material anchor (pivot) of the international monetary system remains.

Finally, the development and defence of the idea, in its struggle with the practice and theories of international fiduciary money, - have been undertaken by some of the leading and talented economists belonging to different schools and with different political preferences. This fact, in itself, gives us reason to study the theoretical and practical aspects of a possible application of RBIC in the near or foreseeable future.

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[27] See, for example, Ussher (2009) and Ussher and al. (2018).

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