On Introduction of Sound Money*

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Abstract

World financial crisis unveiled the precarious position of modern monetary system based on a centralized fiat money supply and fractional-reserve banking. The scale of the crisis and the threat of major price inflation, which has already become a reality on commodities markets, confirm the instability of the monetary system. In order to define weak spots of the system and consider possible solutions on how to address them it is necessary to revise the nature of its elements, and in particular of money. The article is devoted to the issues of money with commodity backing and approaches of its introduction. Model of self-adjusting money creation/redemption based on ETF technology and respective stock and commodity exchange infrastructure is proposed as an incentive to stimulate discussion about potential improvement of the modern monetary system.

Keywords: money, commodities, exchange-traded funds, monetary system regulation.

Introduction

In the last decade financial sector in developed countries has witnessed outstanding events. During this time the bubble of high-tech companies burst in the stock market and a full-scale credit crunch arose and turned into the most dramatic economic crisis since the Great Depression. Governments and central banks have allocated significant resources to stabilize the financial system and stimulate the economy. However, such assistance has led to rapid accumulation of public debt and the consequent deployment of debt crisis of public finances in Europe.

The problem of instability of the modern monetary system due to the fact that the money supply usually does not match the amount of demand for money from economic agents. The reason for this is the use of inadequate information on the need for money by the monetary authorities and belated response to changes in the latter.

This work considers the proposal to introduce sound money backed by real commodities as a possible solution to this problem. Creation and withdrawal of money using the technology of creation/redemption of exchange-traded fund shares will provide self-regulation of the process on the part of economic agents. Futures contracts guaranteed in full are proposed as a tool of the backing of money. Depending on the liquidity of the contract and its market value it is proposed to determine the share of each basic commodity in the commodity basket of money. The introduction of money backed in this way will enable government to abandon inefficient regulation of the monetary system and will make it more stable.

The structure of the work is as follows. In the beginning the author studies the causes of instability of the modern monetary system. The essence of money and the difference between modern paper money and sound money are described. The risk of using fiat monetary units in increasing trends of expressing non-confidence to the national governments is accentuated. The second part of the work offers the proposal of backing the money with commodities, framed by Benjamin Graham. The basic aspects of the Plan of Graham are illustrated, in particular, in regard to the use of raw commodities as monetary reserves. The final third part offers a practical approach to the ideas of Graham on the organization of commodity backing of monetary units. The main role in this proposal is given to the well-established technology of creation/redemption of exchange-traded fund shares, which can provide the basis for self-regulating process of creation and redemption of sound money. Brief summary of the work is presented in the conclusions.
1. Fiat money and its instability

Today a state plays a leading role in the organization, management and problem solving of a monetary system. Empowered bureaucrats make important decisions that change the individual patterns and conditions of system operation. Upon that these decisions are often taken discretely without any conformity with the rules and for the benefit of politicians or specific groups. The question is whether the monetary system managed in this way is able function effectively. To find it, it is necessary to determine first which information is used in decision-making process and who are subject to decisions approved by the regulatory authority. Hayek in his article "The Use of Knowledge in Society" stresses that the "data" from which the economic calculus starts are never possessed by a single mind within the whole society. The knowledge of the circumstances and time of which one must make use in the process of management never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess [Hayek, 1945].

Even assuming that the policymakers possess all the required information, one should keep in mind that the process of collecting and processing raw data takes time. And during that time the original data may change drastically. Therefore such information may be no longer relevant because it does not correspond with the current situation, and decisions taken on its basis by policymakers are unlikely to be effective. In addition, there is a problem of optimal economic planning in an environment where expectations of economic agents are relatively rational. In this regard Kydland and Prescott note that at any time the defined policy was the best choice given the current situation. In effect the policymakers are failing to take into account the effect of their policy rule upon the optimal decision rules of the economic agents [Kydland, 1977]. If for example during a recession agents expect expansionary monetary policy, they take it into account in their decisions advance, reducing the effectiveness of measures taken monetary authorities in the future. To increase the effectiveness of regulatory measures, the policymakers resort to withholding information or even to misinformation about making potential decisions. Similar manipulation with information is particularly apparent in terms of enhanced regulation of the monetary system by the state, in particular prior to the devaluation of a currency, when authorized officials deny the very possibility of its introduction until the very last moment [Hazlitt, 1978].

Theoretical justification of impossibility of optimal management of open system, which is the monetary system, is supported by the experience of policymakers and professional market participants. Consequently Alan Greenspan, who took the office of the Chairman of the Board of Directors of the Federal Reserve from 1987 until his retirement in 2006, recalls in his memoirs: “For over eighteen years, my Board colleagues and I presided over much of this process at the Fed. Only belatedly did I, and I
suspect many of my colleagues, come to realize that the power to regulate administratively was fading. We increasingly judged that we would have to rely on counterparty surveillance to do the heavy lifting. Since markets have become too complex for effective human intervention, the most promising anticrisis policies are those that maintain maximum market flexibility—freedom of action for key market participants such as hedge funds, private equity funds, and investment banks... Regulation, by its nature, inhibits freedom of market action, and that freedom to act expeditiously is what rebalances markets. Undermine this freedom and the whole market-balancing process is put at risk. We never, of course, know all the many millions of transactions that occur every day.” [Greenspan, 2008, pp. 477-478]. Moreover, Greenspan does not see how increasing government regulation can improve market efficiency. In his opinion, it is advisable to replace governmental regulation with the self-regulation of global markets. This transition is almost inevitable as the world economy has become so complicated that no individual or any group of people can fully understand how it works [Greenspan, 2008, p. 520].

George Soros, one of the leading hedge fund managers emphasized the inefficiency of governmental regulation of the monetary system. During hearing before the Congress of the United States devoted to the impact of hedge funds on the stability of financial system he stated: “…any system that you introduce is basically flawed, that is what you have to recognize ... there is a flaw in any arrangement that you have, and the longer you have that arrangement, the more the flaw becomes apparent, so you must be always ready to revise it and to modify it in the light of experience.” Instability of the monetary system in financial markets caused by governmental regulation is a source of revenue for professional market participants, including hedge funds. At the hearings referred to above Soros confirmed that while creating instability the government helps hedge funds to develop their own business that allows for use of imbalances in the financial market in their favor.

Failure to regulate a monetary system effectively leads to the necessity of its gradual replacement by a new, self-regulated system. Such a system should be based on clear and standing rules of operation under conditions of non-interference of the state. Economic agents have to negotiate contracts on a voluntary basis, while implementation of these contracts shall be mandatory and binding. The role of a state should be reduced to prevention of the fraud, fight against unfair actions of concluding and enforcing of contracts. Good will upon entering into agreements is closely related to freedom of choice of unit of currency for settlements. Indeed, the possibility to introduce a unit of currency suitable for all

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2 Ibid., p. 54
into common use determines to a large extent the success of building self-regulating monetary system. Before offering you an option of such unit of currency, let’s focus on the essence of money.

Numerous studies of anthropologists on the application of miscellaneous commodities as money equivalents on different continents were generalized by Catherine Eagleton and Jonathan Williams, fellow workers of the Department of Coins and Medals of the British Museum. In the book “Money. A history” they state that abstractedly money is often represented as a medium of exchange, while in its concrete expression this word points to a multitude of things normally used for accomplishing of such a function [Eagleton, 2011, p. 11].

Theoretical argumentation of spontaneous origins of money was presented by Carl Menger in his work "On the Origins of Money" published in 1892. Menger claimed that the commodities which proved to be the most saleable in exchange operations became the most popular. In other words a commodity had to be a liquid one to be sold easily without reduction of its amount in order to be used as a medium of exchange in future i.e. in capacity of money.

Menger's theory was further developed by Ludwig von Mises in "Human Action. A Treatise On Economics". Mises emphasizes the importance of indirect or interpersonal exchange of commodities. Such exchange takes place when "...between the commodities and services the reciprocal exchange of which is the ultimate objective of exchanging one or several media of exchange are intercepted. A medium of exchange which is commonly used as such is called money" [Mises, 1996, p. 422]. According to Mises money is a medium, a mean that provides for exchange. This product should be considered as the most worthy to sell or the most liquid. People buy it because they want to offer it to the subsequent acts of interpersonal exchange. In regard to the functions of money Mises states: "Money is the thing which serves as the generally accepted and commonly used medium of exchange. This is its only function. All the other functions which people ascribe to money are merely particular aspects of its primary and sole function, that of a medium of exchange" [Mises, 1996, p. 401; Mises, 1934, pp. 34-37]

At first contractors to a deal weighed and measured traditional generally accepted medium of exchange (money commodity) during the purchase transaction. Then, a state started acting as a guarantor of conformity of each money unit to a standard specimen regarding its weight and content. At the beginning of the state regulation of monetary system the payments were somewhat simplified because there was no need to carry out weighting procedures and check the quality of money units. However, as soon as the state realized the advantages of monetary regulation, it started to use it on purpose in order to obtain an additional source of income. At first it started with counterfeiting money and then forced economic agents to use completely debased fiat money. The state endowed them with a status of legal tender and thus declared itself as a monopoly of issuing monetary units. Monetary units being a non-
commodity have no intrinsic value or demand for them, and are actually enforced by the state in terms of absence of an alternative medium of exchange. [Hayek, 1990, pp. 39-40].

Lack of backing of money is explained through its mechanism of issue. According to this mechanism the government initially sells promissory notes to banks. Banks create deposits for the government that it may use for its own needs. Banks, on the other hand, can sell governmental promissory notes to the central bank, which in return opens deposits in their favor or pays in its own notes issued for that very purpose. Thus, the basis of fiat money is an unsecured liability of the government that in fact means the governmental promise to pay in the future. Therefore the essence of fiat money comes down to governmental liability which is its assurance to pay in the future. This assurance is not a one hundred percent guarantee, as far as governmental revenues are unstable and may not be assessed accurately. In order to stabilize the unit of currency the regulator tries to control its supply, considering information on the level of prices, production output, velocity of money etc. However, such quantitative regulation does not take into account psychological factors such as confidence in government that is crucial in the understanding of fiat money concept at times. The sudden abandonment of the use of money which finds its expression in a surge of price inflation is not always caused by instant increase in money supply. It is rather caused by expectations of future increase in money supply. As an example Hazlitt points out to a situation when the United States went off the gold standard in March 1933. By 1934, the average of wholesale prices had increased 14 percent over 1933, and by 1937, 31 percent. The U.S. formally abandoned gold convertibility again in August 1971. Wholesale prices rose more than 13 percent between 1972 and 1973, and more than 34 percent between 1972 and 1974. [Hazlitt, 1978].

This inability and unwillingness of monetary authorities to consider subjective need of economic agents for money lead to constant inconsistency between the money supply and demand for money and lay the foundation for inflationary developments. Statistical data manifests it clearly. It is known that the average price inflation rate under the gold and the earlier commodity standards was essentially zero. At the height of the gold standard between 1870 and 1913, just prior to World War I, the cost of living in the United States, as calculated by the Federal Reserve Bank of New York, rose by a scant 0.2 percent per annum on average. From 1939 to 1989, the year of the fall of the Berlin Wall and before the onset of the post-cold war wage-price disinflation, the CPI rose ninefold, or 4.5 percent per year [Greenspan, 2008, p. 471].

This substantiates the thesis about the riskiness of fiat money that due to excessive supply and non-confidence may not a transfer a value despite the status of legal tender and governmental assurances on ensuring stability of unit of currency. This risk may be eliminated only by transferring authority over the formation of the money supply from the central bank to economic entities. In the context of a free
choice of economic agents will better accept such money, which they if needed may exchange for a good that is the basis of their backing. It will be money with commodity backing.

2. *Money backed by commodities. Graham’s plan*

In contrast to fiat money, the value of money with commodity backing is much more stable because it is not under the influence of unreasonable decisions and assurances of various officials, who, above all, pursue a single goal of how to remain in power. Participants of exchange deals may decide on the exact amount of money in circulation according to their needs. Changes in the needs of a medium of exchange theoretically should lead by itself to a change of amount of monetary units available in circulation.

If in time, the supply of the medium of exchange differs substantially from demand for money this indicates a flaw in use of such good as money, even if it is generally accepted. Gold and silver coins underwent that particular trend on periodical basis [French, 2009, pp. 19-33]. Hayek accentuates on shortcomings of gold standard as follows. The need for liquidity leads to the increase in the production of the one thing which can be used for practically no other purpose than to provide a liquidity reserve to individuals. Gold can be supplied to market in increased quantity only so slowly that an increase in the demand for it will act much more on its value than on its quantity or, in other words, will cause a general fall in prices. While once the supply of gold has increased and the demand again falls, the excess supply of gold can be worked off only by a general rise of prices. [Hayek, 1948, p. 212]. Thus, the gold standard tends to exhibit sluggishness of metal supply reaction to change in demand for it. The relatively negligible industrial use of gold does not allow reducing such sluggishness by the use of excessive supply in production.

As an alternative to improve the gold standard various schemes had been proposed to extend the commodity backing of money at the expense of a number of commodities that could serve both for the ultimate consumption, and lie at the heart of the new medium of exchange [Hayek, 1943; Graham, 1944; Hart, Kaldor and Tinbergen, 1964; Hall, 1981]. Among the approaches of introduction of money with commodity backing, in my view, special attention should be paid to Benjamin Graham’s plan.

From the very beginning Graham's plan was aimed at improvement of raw materials management and securing stability of postwar economics, apart from on carrying out monetary reform as such. His preliminary proposals Graham set forth in "Storage and Stability", which was published in 1937. Graham believed that stock of raw materials is a guarantee of national security and welfare. Besides, they may
play a stabilizing role through the reduction of fluctuations of raw materials prices, which in their turn will allow for narrowing trading cycles, assist in avoiding of deep recessions and support high level of employment. And, finally, a stock of raw materials may be used as monetary reserves.

The Graham’s plan put forth the establishment of International Commodity Corporation (ICC), which would buy, sell and store reserve commodities on a composite or unit basis. The commodity unit would consist of 15 or more products, their relative quantities corresponding to their world production and trade. At the end of 1937 Graham proposed to include into a commodity unit wheat, corn, sugar, cotton, wool, tobacco, petroleum, coal, lumber, pig-iron, coffee, and tea, rubber, copper and tin. Since the introduction of the plan, Graham envisaged that the composition of a unit would extend gradually and eventually include 25-30 products.

The plan stipulated that world prices for the component commodities would be calculated FOB principal ports of destination (shipment), in dollar equivalents, thus illustrating the world export prices. When composite price of commodities basket falls to 95 per cent of the base price stated at the end of 1937, the ICC will buy appropriate amounts of all 15 commodities in the world export markets, including purchases on the commodity exchanges. The option of futures contracts purchase was also taken into account. On the other hand, if the composite price increases to 105 per cent of the base price, the ICC would sell out all the goods from the commodity basket in their relevant amounts. Graham’s plan also proposed a storage arrangement between producers, holders and participants on some rational basis [Graham, 1944, pp. 42-46].

The plan envisaged the major role of the ICC in meeting the demand for money. This is the case when monetary system is unlikely to be called a self-regulating system. Thus, when composite price of commodity basket deviates on amount that exceeds the marginal value in either direction the ICC will initiate buying or selling of goods causing increase or decrease stock of money in circulation. Such conditions allow for a possibility that a certain good will be produced not for satisfaction of consumers’ needs but rather for obtaining money directly from the issuer. Thus the ICC claims the status of "a brain" aware of mix of experience of all market actors on the relevant good. This, of course, is not possible.

Graham proposed to create the commodity basket with 15 goods with perspective of its gradual extension to 25-30 items by one position per year. However, he did not substantiate why such a procedure of commodity basket extension should be put in place. Besides, making deals in buying and selling goods on the spot markets is connected with accompanying expenses related to storage, transportation etc.
These costs, like prices, usually differ from time to time because spot markets do not provide for maximum possible concentration of demand and supply in space and time. All aforesaid complicates the definition of composite price of commodities basket.

Graham and other followers of theory of commodity backing of money made a significant contribution to solving the problem of monetary system stabilization. Nowadays their ideas are undeservedly ignored. Though they can and should be taken into account while restructuring the monetary system.

**3. Another approach on introduction of sound money**

In my opinion monetary system will be stable only when it would be completely self-regulated regarding the issues of unit of currency details and patterns of stock of money at large. Such system, obviously, should follow the condition of provision of commodity backing of money. Creation and redemption of such money shall be carried using a relevant technology.

First let's clarify how it is possible to create a commodities basket that will serve as a basis for unit of currency by taking into consideration only the interests of market actors. Evolution of trade in tangible goods resulted in origination of the most effective institute of wholesale trade, namely the commodity exchange. The exchange trades in futures contracts on delivery of tangible goods. The contracts are standardized, which means the unification of such terms of trade like title and quality of the good, date and place of delivery, payment conditions etc. The exchange is interested in organization of circulation of the necessary contracts only. It occasionally introduces new ones and withdraws contracts which had lost their popularity. Thus, the range of futures contracts of commodity exchange represents the set of tangible goods, which are made by a large number of producers and consumed by a wide range of customers. Such contracts are also attractive to speculators, who, in the hope of receiving benefits from deals with these contracts, provide liquidity to the market. It is logical to conclude that the most liquid contracts (as a rule they are those with the nearest delivery month or the one next to it) could constitute the commodity basket for backing the unit of currency. Exchange would change the range of contracts in circulation in accordance with the changing needs of market actors. These changes would automatically lead to relevant modifications in the commodity basket.

Besides determination of the list of most needed commodities it is reasonable to define the weight of certain good in the commodity basket. To my opinion, attention here should be paid to the number of
contracts traded and their market prices. These two criterions are indicative of necessity of a good from the point of view of market actors. I consider the necessity of a good in a broad sense without limiting to the utility of its use in technological processes or direct consumption. The procedure of rebalancing of commodity basket may be performed on a regular basis, for example, after closing of the last trading session. In order to calculate contract weight \( (w) \) in the commodity basket the following formula may be used:

\[
    w_i = \frac{\sum_{j=1}^{n} P_j^i Q_j^i}{\sum_{i=1}^{m} \sum_{j=1}^{n} P_j^i Q_j^i}
\]

where \( w \) – a share of a contract in the basket

\( i \) - index number of a contract in the basket

\( m \) - total number of contracts in the basket

\( j \) - index number of a futures trade with a relevant contract made during the last trading session

\( n \) - total number of futures trades with a relevant contract negotiated during the last trading session

\( P \) - price, at which a futures trade was negotiated

\( Q \) - number of contracts contained in a futures trade

Finally, we will obtain the structure of commodity basket to be utilized as a basis for backing money.

Technology of creation and redemption of money shall ensure the exchange of commodity basket for certain amount of money as well as meet the requirements of self-regulation on the part of market actors. If money is issued than in exchange for that, the issuer should obtain the commodity basket as security while when the money is withdrawn from the system, the relevant contracts shall be returned to the bearer of money.

While evolving the financial markets developed and successfully implemented the technology of automatic exchange of depositary receipts for securities and vice versa. Let’s consider this technology
in detail in order to understand how it can be used for automatic creation/redemption of money. Such technology is used by exchange traded funds (ETF). An ETF is an index fund with its shares being traded on stock exchange in the same way as ordinary shares of companies. It should be noted that most ETFs are open-end funds, so they are not obliged to buy their own shares issued hitherto.

Mechanics of ETF performance is described in detail by Gary L. Gastineu in his book "The Exchange-Traded Funds Manual" [Gastineu, 2010]. Figure 1 shows the standard open-end stock ETF share creation process. First, the composition of the index is determined, and afterwards it is communicated to the Authorized Participants (APs) (steps 1 and 2). Only authorized participants (APs), typically large institutional investors who have an agreement with the fund sponsor, are allowed to create new shares, in blocks of specified minimal amounts known as creation units [Deville, 2008, p. 74]. The key aspect in this process is depositing of securities and the residual amounts of cash by an AP to the fund and in return obtaining relevant number of shares of the fund (steps 5 and 6). Further, these shares are distributed through brokers (steps 7 and 8) among investors (steps 9 and 10). Outstanding shares may be sold in the on the secondary market. Whenever the fund shares market price divert substantially from the net asset value of the fund, APs are inclined to conduct arbitrage operations - they buy the securities on the stock market (Steps 3 and 4) to exchange them for the new fund shares and sell them later on the market and vice versa. APs' constant search for opportunities to profit from price discrepancies eventually results in narrowing of price deviations and makes the fund shares market more liquid. ETF share redemption process is an opposite one when compared to the reviewed above and can be seen in Figure 2. In this case an AP receives redemption basket in-kind plus balancing cash amount in exchange for the fund shares in creation units. In order to raise the necessary cash, AP sells stocks on the market and the fund shares to beneficial owners through the broker/dealer.
Figure. 1. Standard Open-End Stock ETF Share Creation Process [Gastineu, 2010, p. 58]
Figure. 2. Standard Open-End Stock ETF Share Redemption Process [Gastineu, 2010, p. 59]
The technology of creation/redemption of shares of ETF as one its positive aspects includes automatic and unregulated process of creation of shares and their redemption on the market. The basis of the decision to change the number of existing shares in circulation is expectations of market actors concerning the development of market conditions of assets in future that make the portfolio of ETF. Market actors decide independently how and when to issue shares or redeem them. In addition ETF shares are similar to warehouse receipts, which obtains owner of the goods after placing commodities at the warehouse. This way Nathan Most, principal developer of the SPDR at the American Stock Exchange (AMEX), has envisioned the ETF shares [Gastineau, 2010, p. 57].

Today there are many ETFs which holding assets are raw commodities as well as commodities baskets (for example, SPDR Gold Trust, which holds physical deposits of gold in depository banks [GLD PROSPECTUS, 2010], whereas United States Commodity Index Fund [USCI PROSPECTUS, 2011] and DB Commodity Index Tracking Fund [DBC PROSPECTUS, 2011] hold futures contracts traded on different commodity exchanges). During the assets formation separate commodities based ETFs may enter spot, futures market, or use both of them as needed. Experience in successfully implemented ETF model and time-proven technology of futures trading may establish a basis of perspective monetary reform.

In my opinion the ICC suggested in Graham's plan could function successfully as private entity. Its activity in creation of commodity units (CUs) could be performed as on exchange, as well as on spot markets. For the corporation to operate properly on the organized market should use ETF technology, which provides for exchange of predefined amount of CUs basket of futures contracts (Figure 3). APs would buy contracts on commodity exchange to compose expected basket and exchange it in-kind for CUs in creation unit.

It is advisable to exchange CUs for contracts with a full market value of the latter. In this case, there is no need to engage in replenishing of margin accounts through a negative change in exchange commodity prices and increased margins of exchange with the inverse effect. On the other hand, it will completely eliminate the probability of default of liabilities on contracts that are the basis of money backing which may be incurred by financial problems of a third party. As a result, CUs can be directly converted into fully guaranteed futures contracts. Each transaction of exchange baskets of contracts for CU and vice versa, the fund shall charge a fixed commission fee, which should suffice for the normal
Figure 3. Structure of CUs market
functioning of the ICC. In order to simplify the management of contracts portfolio the fund may not provide delivery and acceptance of the exchange commodities. To avoid this it shall rollover contracts, i.e. it shall sell those with reduced trading volume, while acquiring the most liquid contracts with the next month of delivery.

Obtaining CUs in terms of creation units, APs shall sell them for cash to institutional and private investors through stock market brokers and dealers. APs shall use these cash proceeds for forming the next basket of futures contracts and their subsequent exchange into CUs. If the market price of shares will substantially exceed the net asset value of the fund, then in order to receive profit APs shall perform arbitrage operations. They shall buy up contracts in the required amount on the futures market and exchange them for CUs in terms of creation units for subsequent sell of the latter on the stock market. Conversely, if the price of shares will be much less than the net asset value of the fund, APs will be interested to buy shares on the stock market, exchange them for a basket of contracts and sell contracts on the futures market for profit. Such arbitrage activities of APs will reduce the deviation of market prices of shares in comparison with the net asset value of the fund.

In the development of ICC the corporation should gradually build up warehouse network in order to store exchange commodities. These warehouses are likely to be located in the leading production centers of exchange commodities. Warehouses must be certified by the exchange and receive in storage only those commodities that meet the specifications of futures contracts on the quality of the goods. Entry quality control and storage procedures at the warehouses should be certified by commodity exchanges in order to meet the futures contracts specifications on quality conformance.

After price of a specific good is defined in CUs on the exchange, the producers will be able to exchange their own goods on their equivalent in units less the commission fees after the delivery of goods to the warehouse. If needed, CUs could be sold on the stock exchange for cash. Activity on the spot market will offer advantages to market agents. Bypassing the commodities exchange producers would sell their goods for money backed by a basket of commodity contracts. Moreover, they will be able to deliver goods at any suitable quantity directly to the ICC warehouse as opposed to defined one in contract specification. Operations on the spot market will create a necessary commodity resource for the ICC that can be used to meet obligations on delivery under futures contracts of ETF portfolio and make asset management of the corporation more flexible. As soon as CU would become widespread amongst economic agents there will be prerequisites of using of the ICC shares as a unit of currency. In this case, the money will be fully backed with the commodity basket. Market actors shall determine the structure of backing and amount of money in hands by themselves.
It should be noted that the introduction of CUs as new financial instruments may present a risk of creating additional conduit of shocks propagation between the commodity market and the stock market. David, Franzoni and Moussawi found that ETF shares served as a conduit for shock propagation on the futures market [Ben David, 2011]. One can not rule out a possibility that CUs may also propagate shocks from the stock market to the futures market and vice versa. However, full coverage of CU basket contracts with their market value by the parties shall greatly reduce their speculative appeal within the stipulated margin in comparison with contracts with traditional margin requirement. Considering that CUs will be based on a wide range of goods, the price dynamics of the units will be largely offset by diverse changes in prices of the goods.

In my opinion, the introduction of the system of sound money considered above should be accelerated only if existing monetary system collapses. Today there is a considerable experience of the various ETFs activities that can be successfully used in establishing the ICC and implementing basic procedures for creation/redemption of CUs. A novelty is in-kind exchange of shares traded on the stock market on the futures positions. Its backing would require the coordination of clearing and settlement between the two markets and may need development of new procedures and, where appropriate, introduction of necessary changes into the legislation. In any case, if there is a political will the weak links of the proposed technology of creation and redemption of sound money can be refined and existing barriers – eliminated.

Sound money, in my view, should become an alternative for modern fiat money. Having alternatives, economic agents will choose that means of payment that suits them best. If CUs acquire considerable popularity among the population and business, one can expect a strengthening of confidence in money and increase of their stability. At the same time, the competition on the part of CUs brings more discipline to national governments. They become mindful of their duties on the issue of national currencies emission, because otherwise the use of national currencies will decrease to a minimum. If this takes place, the creation of CUs will significantly slow down and better reflect creation of new added value in the economy. Thus, the major part of prices shall be formed in CUs, including the prices of goods that form a basket of backing of sound money. In addition the role of speculators in providing liquidity to the markets shall be reduced somewhat. This shall largely become APs’ function. Producers and consumers of commodity products shall get direct marketing and supply channels of necessary goods. Market conditions will become more predictable and monetary system much more stable.
The implementation of proposal described above may positively impact the development of world economy. Use of money backed by commodities by economic agents will enable significant reduction of inflationary developments and simplify the international settlements through elimination of risks caused by foreign exchange rate fluctuations. Commodity backing of money and its adequate amount in the system paired with full reserve banking will allow avoiding the formation of asset bubbles [Huerta de Soto, 2012; French, 2009] and eliminating of boom-bust economic cycles.

**Conclusion**

The global economic crisis of 2008-2009 resulted into intensification of the discussion on the issues related to reform of the monetary system at the international level.

This paper argues that the main problem of the modern monetary system lies in its inefficient regulation by monetary authorities. This imperfection may be eliminated by introduction of self-regulating mechanism to the procedure of creation and redemption of money according to the needs of economic agents. This may be achieved by the introduction of sound money that will be used by individuals on a voluntary basis. A unit of currency (commodity unit), backed with basket of fully guaranteed futures contracts was suggested as an alternative kind of money. The necessity of efficient rebalancing of the basket content according to changes in liquidity and market value of the contracts was also emphasized.

Author has proposed to use technology of creation/redemption of shares used by exchange-traded funds for automation and self-regulation of procedures for creating and withdrawing of commodity units. It is assumed that units with more diversified commodity backing will facilitate a relatively stable evaluation with regard to goods and services. After gaining considerable popularity of units among the population there will be prerequisites for using them as money.

The proposal on introduction of money backed by commodities offered in the paper aims to revive the debate on the issue of improving and enhancement of the existing monetary system, that is transforming it into one that will lay the foundation for sustainable economic growth.
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