

SAE./No.141/November 2019

Studies in Applied Economics

**A BLUEPRINT FOR CREATING A
"NON-CONVENTIONAL
UNCONVENTIONAL" MONETARY
SYSTEM AND ARRANGEMENT**

**(MIDDLE EASTERN-STYLE, FOR THE ULTIMATE
CRISIS SCENARIO)**

Tohid Atashbar

Johns Hopkins Institute for Applied Economics,
Global Health, and the Study of Business
Enterprise



A Blueprint for Creating a “Non-Conventional Unconventional” Monetary System and Arrangement

(Middle Eastern-style, for the ultimate crisis scenario)

By Tohid Atashbar

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About the Series

The *Studies in Applied Economics* series is under the general direction of Prof. Steve H. Hanke, Founder and Co-Director of The Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise (hanke@jhu.edu).

About the Author

Tohid Atashbar (atashbar@majlis.ir) is a senior researcher at the Majlis Research Center of Iran.

Abstract

Monetary policies like QE that were once seen as unconventional are now prevalent and almost “conventional”. This study tries to answer the question that in an ultimate crisis scenario, where available conventional and currently “conventional unconventional” tools are exhausted, what would be a Middle East-style “non-conventional unconventional” solution to such a crisis, given that the pseudo-magic unconventional concepts like MMT, which have been on the rise in recent times, would be deemed counter-productive in such circumstances?

Based on the “3-No” or “Triple freedom” theorem which is the product of a comprehensive study of the monetary theories in the region, we propose a three-part solution called 3Fs (**FFF**): 1- “Full-reserve banking” on the system level, which means “No to (freedom from) credit creation from thin air in the banking system,” 2- “Free Banking on Currency Board” or “Currency Board” on the instrument level, which means “No to (freedom from) thin air in the value of money” and 3- “Free from Subsidy” arrangement on the contract level through “Profit and Loss (and Risk) Sharing or PL(R)S” mechanism, which—by eliminating the risk and gain subsidies—means “No to (freedom from) gain from thin air on the contract level”.

Acknowledgments

I wish to thank Professor Steve H. Hanke for inspiring me on this topic and providing insight throughout the process. I would also like to thank Professor Abbas Mirakhor for his guidance on PLS, risk-sharing, and the monetary policy in risk-shared economic environment.

Keywords: Unconventional theories, non-conventional unconventional models, monetary economics, Middle-Eastern schools

A Blueprint for Creating a “Non-Conventional Unconventional” Monetary System and Arrangement

1. Introduction

Monetary policies that were once seen as unconventional, including Quantitative Easing (QE), the Zero Lower Bound (ZLB) or even the Negative Interest Rate Policy (NIRP) have now gained prevalence and become almost “conventional.”

However, overuse of such policies, even in apparently ordinary times, has exhausted or weakened such tools and their capacity to contain or manage the significant financial and banking crises.

The question is, in an ultimate crisis scenario, where both conventional and “conventional unconventional” policies are set to fail, what will be left in the toolbox of the policymakers? The present study seeks to answer the question that, in a hypothetical case, and when global and country-level “last resorts” fail, (or) are not practically accessible, (or) available policy tools, both conventional or conventional unconventional, cannot function effectively, (or) cannot cope technologically¹, what would be the shape of a Middle Eastern “non-conventional unconventional” solution to such an impasse?

Based on a comprehensive review of unconventional monetary theories in the Middle East, and considering that there would be no shortcut for solving the problem, and also assuming that using available pseudo-magic policy stimuli like the MMT approach and its offshoots will lead to significant adverse effects and consequences, the study propose a Middle East-style solution that could provide a fundamental solution to the problem.

1.1. Dead-ends; When unconventional instruments become conventional

Conventional solutions usually fail or weaken during crisis times, prompting economists and policymakers to think about unconventional solutions that could tackle the problem. That was the case in the economic downturn caused by the global financial crisis of 2008, where a set of unprecedented monetary policies emerged around the world. Initially, central banks across the world offensively cut the interest rates to reach their effective low. Subsequently, the central banks in the most advanced economies deployed a new set of instruments that could impact liquidity and money/credit². These interventions, commonly known as the Unconventional Monetary Policy (UMP), was introduced through a series of large-scale asset purchase programs (which also included Treasury bonds and private debt).

¹ Due to possible technological breakthroughs and innovations in alternative monetary instruments.

² Some authors argue that credit is not money but only transferable private debt. Yet the public views the banking system-generated money as electronic cash: a safe source of purchasing power (Wolf, 2014). Credit or money; the practical implications doesn't differ much.

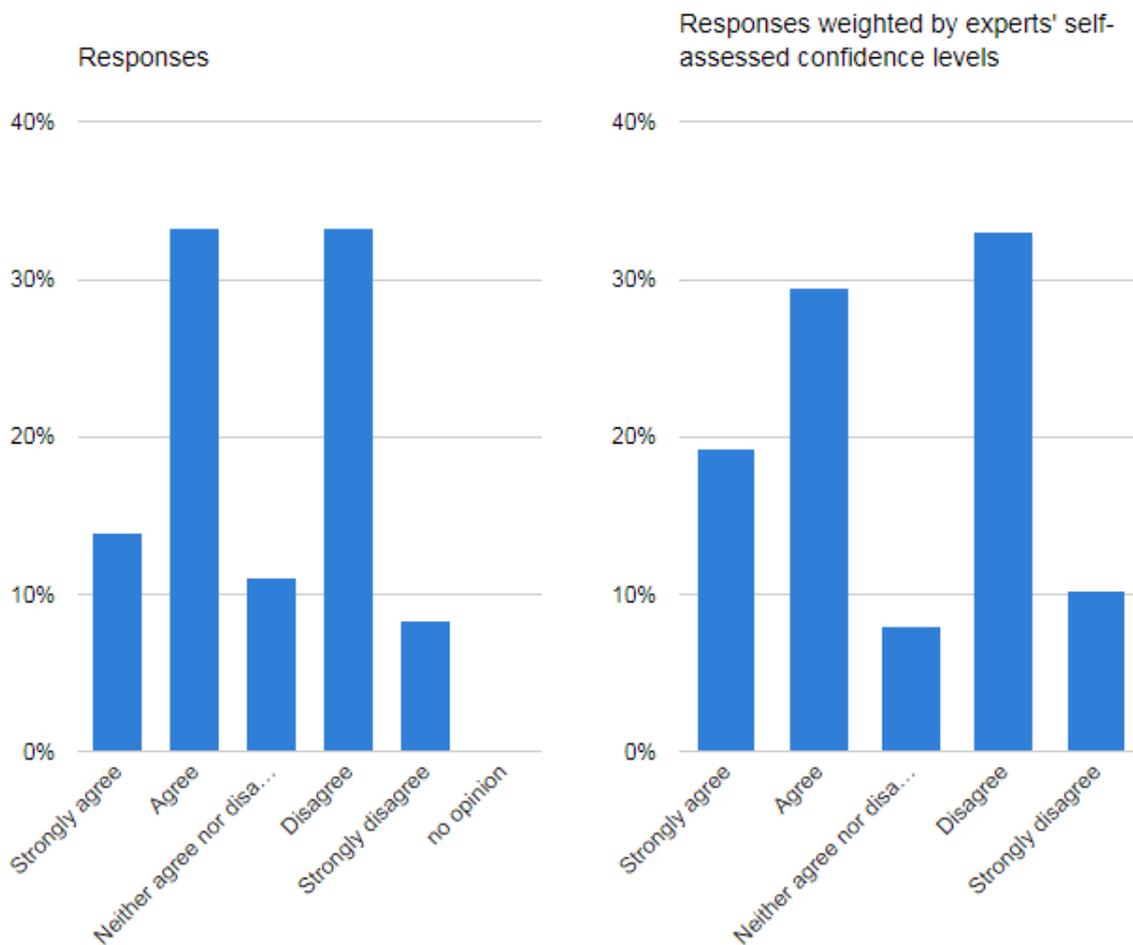
As a consequence and due to such unusual policies, the balance sheet of the central banks began to expand since then and reached unprecedented levels.

However, adopting the so-called unconventional policies like the quantitative easing, near-zero or zero-bound interest rates, negative interest, helicopter drop³ (money), also other various forms of such policies have become such a common practice over the past years that they should be viewed the conventional or somewhat-conventional set of tools. UMP popularity has grown to such an extent that some scholars (Santor and Suchanek, 2016) believe a new era of central banking practices has already started. Some thinkers have even moved to theorize the use of abnormal tools in normal times. For example, Quint and Rabanal (2017) believe there are significant benefits to the use of such UMP tools in regular times, although they insist that these benefits are shock-dependent and their incidence mostly increases during the times of economic turbulence.

The conventionalization of unconventional tools, as a trend, had become so popular that a significant group of the experts and economists have suggested in various surveys that the central banks should continue to apply the UMPs even under normal economic circumstances. For example, in response to the question 1 of the Centre for Macroeconomics (CFM) survey of experts in 2016 that (“Do you agree that central banks should continue to use the unconventional tools of monetary policy deployed in response to the global financial crisis as part of monetary policy under normal economic conditions”?) 47% of the panel members agreed, some 41% disagreed, and the rest were undecided (Charts 1 and 2).

³ An unconventional monetary-fiscal policy (UFMP) that initially was labeled by Milton Friedman (1969) and is defined as financing the budget needs or tax cuts through printing money.

Charts 1-2. CFM 2016 Q1 answers



However, the problem with efforts to conventionalize such policies is that when an economy becomes addicted to uncommon remedies and stimuli, and the *normal situation is built on abnormal materials*, then at the time of a shock or a crisis, that economy will face the same problem that the unconventional methods were meant to cure it; and that is the exhaustion of available ammunition used to address the case. (Mendonça, 2017, Sharpe and Watts, 2013, Labonte, 2014, Baumeister and Benati, 2012, Trichet, 2013, Dell’Ariccia et al., 2018).

Symptoms of problems caused by conventionalizing the unconventional tools are seemingly on the rise today as they can be traced in the politico-economics of the day.

For example when US President Donald Trump proposed via his twitter feed in August and September 2019—while the economy was in a good or healthy shape according to many indicators (or at least it was far from a full-blown crisis)—that Federal Reserve should go ahead "with perhaps some quantitative easing,"⁴ and it should "get the interest rates down

⁴ <https://twitter.com/realDonaldTrump/status/1163472273388576768>

to zero or less"⁵, the backlash that came from critics was quite familiar and anticipated: *This policy "would leave policymakers with far less ammunition to fend off further calamities down the road". "We are shooting all the arrows before we even need to start shooting ", "If things turn out badly, our conventional tools will have been exhausted to a great degree"...* (Borak, 2019).

Thus, our bottom line here is that firstly: the prevalent use of "once-unconventional" tools has turned them into conventional applications, and secondly: the excessive use of such tools has apparently almost worn out their capacity to contain the next big crisis. In other words, adopting such policies too much, even in normal times, has rendered them inefficient for abnormal times where crisis management is needed.

2.1. Policy shortcuts; artificial engines and pseudo-magic tactics

During economic downturns, there is a growing tendency toward using policy shortcuts and the so-called "magic solutions." Ideas like "People's QE," MMT, New-Chartalism, and Functional Finance are usually raised in these circumstances. These theses have simultaneously developed or been the result of some common features (Mitchell and Fazi 2017; El-Gingihy, 2017; Mueller, 2019):

- Governments that borrow in their local currency are immune to insolvency, and they should not be concerned with the budget deficit because more money can be printed to service the debt,
- Budget deficit and public debt do not matter (are insignificant) when the economy does not work at full capacity, and there is no inflationary pressure,
- Taxation is there but not to obtain revenue and spend to spur growth. It is in fact meant to heal other wounds, like to drain the excessive inflationary effect of printing money,
- The old saying which goes "tax, then spend" is changed to "spend, then tax" because printing more money and spending it will create taxable growth (through entrepreneurship spurred by injecting more capital – or printing money – which is a factor of production),
- Banking system generally uses QE to restore its balance sheet to normal, as much of the resources earmarked QEs to the banking system during crisis ended up inflating the financial markets and creating asset bubbles. So why not to use it to stimulate growth and to create new jobs for ordinary people?
- Inflation in most cases is not because of disproportionate or excessive growth of money, but it is caused by the effective failure in taxation or failure in fine-tuning the velocity of money or a weakened output.

⁵ <https://twitter.com/realDonaldTrump/status/1171735691769929728>

The problem (or in fact a series of problems) that emerge in dealing with such Econo-magic schools of thought is:

- Although they usually and correctly start with a focus on the weaknesses of current fractional reserve system in creating money from thin air⁶, and some of their statements might be partially true in some circumstances, but instead of trying to fix the problem, they think that they are entitled to use a (wrong) policy shortcut by ignoring the empirically proven (not rejected) principles of economics: excessive printing of money will generate inflation—if not hyperinflation—, and inflation in many cases —if not “always and everywhere”— is a monetary problem. That misunderstanding about economic relations leads them to mistakenly believe that the economic developments in different countries are related to the *magic* theories. For example, Japan is often referred to as the country where the magic approaches have worked. However, the fact is that although Japan’s volume of domestic debt has been high over the years, the volume and pace of the money in circulation in the country have been perfectly proportional to the growth rate of the economy. In fact, an increase in domestic debt has not been accompanied by a disproportionate size of the money supply (monetization of deficit). (Greenwood and Hanke, 2019)
- They also usually assume that the problem is about the “user,” or the quality/method of using the system, and not the system itself. A common saying in many Econo-magic texts goes this “weapon” (printing fiat money from thin air) should be seized from the bankers/Wall Street and used for the benefit of “the people”/the main street. So, it is wrongly assumed that there will be no problem if we only improve the way money is “distributed” (targeted) among people or businesses. In addition to the theoretical and empirical deficiencies that arise with regard to the relation between inflation and money supply, this assumption in question is also flawed because it is based on a very intelligent, computer-like, no-bureaucratic, perfectly coordinated, without decision or policy lag, no-politically biased and corruption-proof manner of thinking about the way the governments work. In fact, New-Chartalism and its offshoots rely on a hypothetical *super-government* or institution that knows precisely what the natural rate of unemployment is, when the money should be injected, how and where should it be spent to accelerate growth and finally when to start taxation to offset the inflationary pressure caused by money-printing schemes. In fact, the myth of “fast-proportionate-high quality” money printing procedure is like hitting a moving target (considering the proportion of liquidity that comes with growth, also effective, fair distribution and targeting of created money) with shaking hands and a low-precision

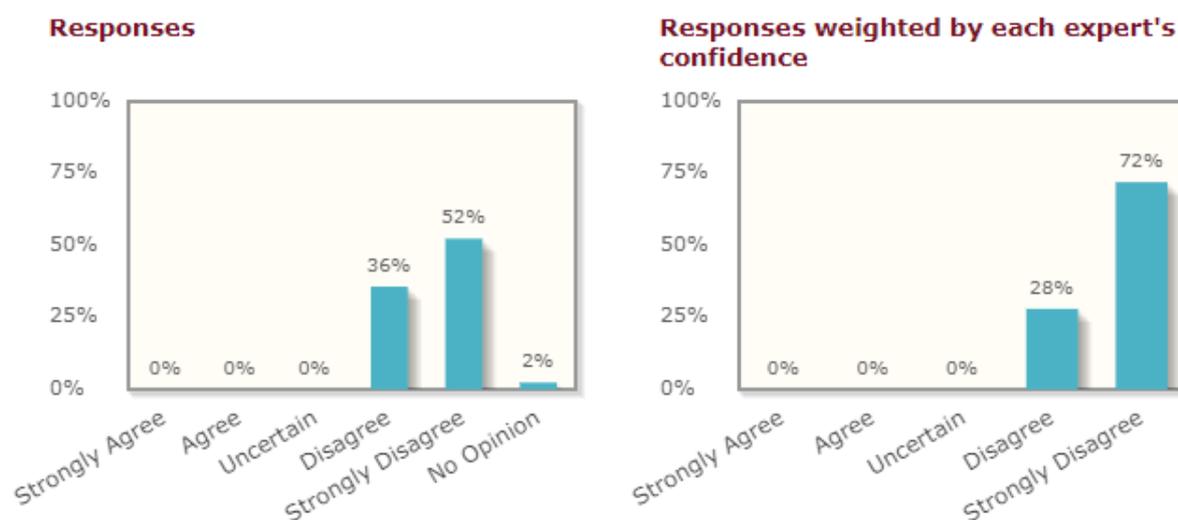
⁶ Generally using different branches of endogenous theory of credit/money, or just by employing the traditional approach to creating credit in which each unit of credit/money can be created from a fraction of base credit/money unit.

gun (the banking structure and the money printing system) on a moving machine (the economy subject to various fluctuations) and all this may lead to the target becoming a Utopia on the paper but it may end up in a real-world monetary Dystopia like the one in Zimbabwe or Venezuela during hyperinflation .

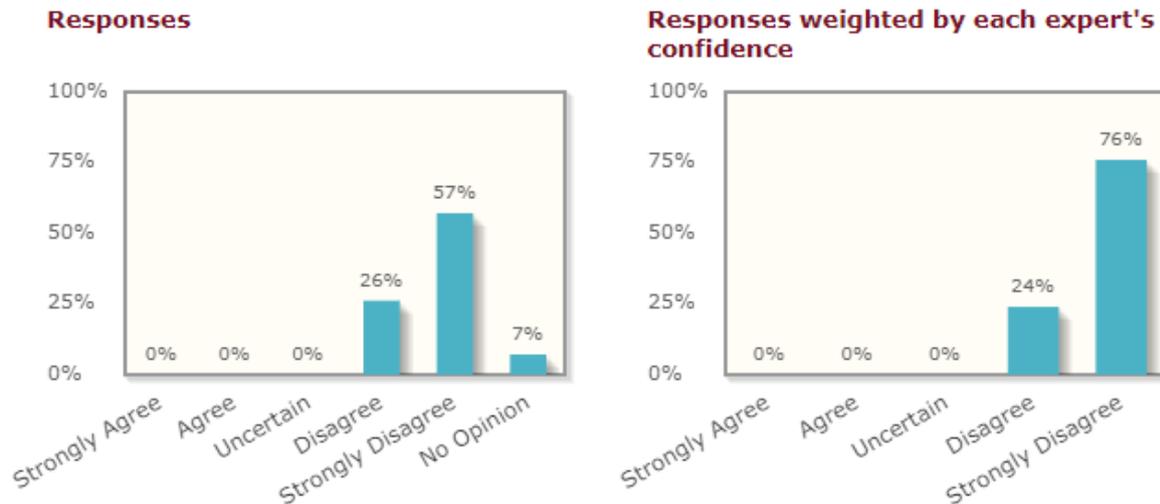
At the end of the day, numerous misunderstandings about economic concepts, an array of simplistic assumptions about the way the governments and bureaucracies operate in the real world and an ignorance about the risks and negative side effects of printing excessive money or creating credit for the very people that advocates of these theories claim to be representing, make this school, in its extreme modes, a New-Charlatanism rather than a New-Chartalism way of thinking. (Holden, 2017).

Maybe that is why not even a single economist agreed with the following statements about MMT assumptions when put to them by the Chicago Booth School of Business in a 2019 survey; Question A: “Countries that borrow in their own currency should not worry about government deficits because they can always create money to finance their debt and Question B: Countries that borrow in their own currency can finance as much real government spending as they want by creating money”. Interestingly, there was no uncertainty in the responses given to the questions. (Charts 3-4 and 5-6).

Charts 3-4. IGM Economic Experts Panel, Q A answers



Charts 5-6. IGM Economic Experts Panel, Q B answers



3.1. *Soul-searching; Global quest for new unconventional remedies*

Numerous unconventional movements have emerged from the universal struggle to find remedies for monetary malaises. There has been an uptrend in remedy-seeking monetary ideas concurrent with the increase seen in the frequency of financial crises that have occurred over the past decades. These movements have been called and named differently in various localities and in different intellectual contexts (Scott, 2018; Revolv, 2019). Just to name a few, we can mention The Positive Money, The Sovereign Money Initiative, The Sensible Money, The Fair money, The Public Credit, The Prosperity, The People’s QE, etc. (In English-speaking regions) also, Monetative, Talousdemokratia, MouvementMonnaieJuste, Monetative, Fekyou, BetaPeningakerfi, Moneta Bene Comune, Firstsource Money, ЧИСТИ ПАРИ, שינוי מוניטרי, etc. in other countries and regions.

These scattered movements are so fragmented geographically and theoretically that they should be seen as an uncoordinated monetary soul-searching rather than an organized scientific effort.

Generally, it seems that defects in financial and banking procedures or structures have caused a sustained pain and helped the rise of a durable and decentralized effort to find a sedative or a remedy at the expense of the available conventional methods. These efforts typically peak during the crises or at the time of industrial/technological shocks and then declines when the crisis or the period of shock tend to subside.

Some of these ideas (like full-reserve banking) have found their way into some circles of economists, and some others (especially *magiconomic* part of the spectrum, like MMT, as explained above) are strongly rejected by the considerable majority of the economists, although they have been welcomed by people in the political

community. The extent to which these ideas have been accepted varies over time and changes depending on the activity of the proponents of each theory, among other factors.

Despite the relatively diverse geographical and linguistic distribution of such movements and ideas, they can theoretically be translated into a smaller group of economic theories and schools.

A considerable majority of unconventional remedies are a hybrid version of the different types of post-Keynesian ideas (when it comes to endogenous theory of money, MMT, People's QE, etc.) or Austrian schools (when they talk about Full-reserve banking, return to gold-like standards, the Free Banking, Alt-coins, etc.), or the contemporary branches of the Credit Theory of Money (when they urge a return to gold-like standards, Full-reserve banking, QE-like monetary expansions, Alt-coins, etc.). Some other ideas can be considered as the complementary components of a more general movement like the alter/anti-globalization or the environmentalist movements, despite being economical (when they talk about Alt-coins, the abolition of monetary institutions or the push to new/alternative institutions, Free banking, Network money, Green money, Anarchist Money, etc.).

Now, the question is that what does the unconventional school of thought in the Middle East have to offer alongside, in addition to, or in opposition to these global schools and ideologies? How its components can be traced to and justified by the old or new economic literature? Also, what will be the practical implementation plan for such a proposal, and what will be the practical outcome?

2. A Blueprint

There are at least two essential requisites, among others, in construction of any new building: the foundation on which the building is to be based, and the design of the building in terms of architecture and skeleton (building blocks). Thus, the question is if a monetary building is to be structured based on a series of unconventional Middle Eastern schools of thought, what should be its theoretical foundations, and what will be the building blocks?

1.2. Foundations; Back to the [very] basics

The new theoretical remedies are usually based (or expanded, rebranded or split), in part or as a whole, on a wide range of old or ancient theories, just like industrial/chemical/modern medications that try to reproduce the effectiveness (or reformulate the composition) of

natural or herbal remedies that existed in the old times. A similar effort is underway in the food industry to return to the “originality” which is called the Organic or non-GMO (genetically modified organisms) movement.

So what would be a similar movement that could mirror the likes of Naturopathy and Non-GMO in a monetary reform effort (if we can assume that the genome of the monetary system and monetary economics has undergone ineffective engineering over the time)? In other words, if one tries to return to the very basics, what would be the outcome? How logical or rational it may become? How could it be translated into the current economic literature (mainstream or heterodox)? Also, how could it be applied to the system concerning the new age considerations or technological developments⁷ as the established remedies of new realities?

The ancient Near and Middle East (West Asia) is home to early civilizations and accordingly a hotbed for the very basic and original ideas about the economy and economic management. Therefore, the Middle East would be the right location for those seeking to find the original and unconventional remedies (compared to the current conventional or conventional unconventional medications) for the current monetary issues.

The question is, what is behind the quest of the unconventional monetary ideas generated in the ME region, and how can they be different from other schools of thought?

The answer lies at the heart of the very simple and *common core/basic idea* of the majority of the unconventional monetary schools in the Middle East, and that is the *freedom* from manipulations; with an emphasis on one of the most common forms of manipulations which is *to give and get something for nothing*.

In this context, such systemic freedom from manipulations, especially from the *for-nothing* or *subsidy-style forms of manipulation*, would also help make the system fair and just (because every economic agent is not entitled to get more than what it is eligible for by misusing the external interventions). It will also help free up the full energy existing in the capacity of the economic agents (no doping is allowed in the competition, and the agents are supposed to depend on their own potential and become used to it). The effort will also optimize the economic activities (because the competition is real, free and fair) instead of being sub-optimally active in an artificially manipulated and systematically repressed condition.

⁷ Connected world, digital work, network technology, etc.

The bottom line in this context is that the monetary system is free, unrestricted, just and efficient when it is free from the interventions which result from various forms of free-lunches/subsidies/for-nothings.

In other words, this core idea presupposes that the monetary system should not be turned into a subsidy system, and any subsidy or support meant for select groups should not alter the functions, variables, and specifications of the system and that such a support should be granted—if necessary—only through exclusively subsidized loans and without creating any changes in system-wide loan arrangements, or it could be done through employing fiscal instruments.

Moving from this theoretical core, we should look for the operational specifications of this "*No-Free Lunch Monetary Laissez-faire*" unconventionalism in the ME monetary literature. Studying relevant texts in the economic context and language—and not the holistic general or philosophical ideas⁸— that can be found in the recent century literature and are based on the old or ancient ideas (i.e., modern literature based on older ideas), Atashbar (2019) has concluded that those ideas can be categorized into 5 different unconventional schools:

1. **Full reserve-like approach to the banking system:** the policy/systemic recommendation provided by this school of thought is that the monetary system should move from the fractional reserve arrangement to a 100 percent reserve one that could be implemented in a variety of methods, including by moving toward narrow banking, and a return to the gold system, or other settings.

The goal: *No money creation from thin air. No free lunch in credit creation for the banking system (system-level free lunch).*

2. **Commodity/Asset-backed monetary systems or Currency board-like frameworks:** the policy/systemic recommendation derived from this school of thought is that the central bank should be obliged to create (or be replaced with) a system (like a currency board) that issues and circulates the currency backed by (based on) a commodity or asset with "intrinsic (not bank-generated) value" such as gold rather than issuing credit-based fiat money,.

The goal: *No Thin air in the value of money. No free lunch in the process of money issuing for the money issuer (instrument-level free lunch)*

⁸ The basic idea behind the proposed solution in this study is that there should be no free lunch in the monetary system. The similar idea can be found in the works of some authors in the non-economic domains. For example, the concept of "no risk, no gain" which is the core of this paper, is articulated by Taleb (2012) in his book on "Antifragility" as "skin-in-the-game". The idea reflects the Middle Eastern concept "al-Ghunmo bi al-Ghurm" in Arabic or "no risk, no reward" in English. This is also a basic Aristotelian principle embedded in his idea of the sterility of money.

3. **Profit and Loss Sharing (PLS) or Profit and Loss and Risk Sharing (PLRS) or Interest-free approach to the banking system:** This notion is based on the idea that there should be no systemic contract subsidy (including gain and risk subsidy). The gain subsidy is defined as the gain that has been achieved without producing a profit, and the risk subsidy is the gain that has come without incurring the risk of creating a profit or incurring a loss. In combination, the systemic contract-level subsidy is defined as the "guaranteed gain" (which includes both risk and gain factors of a contract). Hence, the profit and loss and risk-sharing or PLRS (which is just a more clarified/identified representation of PLS⁹) *guarantees no systemic guarantee* in terms of gains and risks on the contract level of the monetary system. The banking system proposed by this school of thought operates within the risk/gain (profit and loss) sharing between the bank and the client, and there is no possibility that the lender can receive risk-free profits as the guaranteed interest. In this system, any degree of interest, positive, zero, or negative, that has been gained without risk sharing is considered wrong and unfair¹⁰. The proponents of the system tend to name the system as interest-free, and not a zero-interest-rate system, because zero or even negative interest rates can sometimes be a characteristic of subsidized interest-based traditional banking. In this system, the structure of banking operations is preserved, but the conventional interest rate system does not hold such that all loans are paid out in the form of participation in profit and loss. In other

⁹ It should be noted that PLS is not different from risk sharing. PLS is an ex-post concept, meaning that the profit or the losses of a project are shared at the end of the project where losses or gains are shared after they are monetized. But the question is on what basis the sharing takes place? The answer is: based on a share parameter agreed upon at the beginning of the project. But then, at the beginning no one knows what the outcome will be in future. Hence the decision has to be made under conditions of risk and uncertainty. That is, risk sharing is ex-anti concept of the ex-post PLS. So the two are one and the same, except one is ex-anti (risk sharing) and the other (PLS) is ex-post. PLRS is just a term to clarify PLS and to prevent any misunderstandings.

¹⁰ From the Middle Eastern point of view, the opportunity cost of holding money, the time preference theory of money, the time value of money, deferred consumption/utility of money and similar concepts cannot justify the real interest of money, simply because if you keep money for a thousand years, not a single cent will be added to the initial amount. Money does not increase without the help of other factors of production, has not independent and standalone value (whether or not it is neutral) and ignoring the current utility of its consumption does not "guarantee" its increase. *The monetary system is rigged*, restrictive and even expulsive against the activity space of economic agents and the free economy, if a systemic risk-subsidy or guarantee is embedded in the monetary/financial structure in favor of some economic agents.

Thus, in order to fix the system, first, there should be no risk subsidy (guarantee) for the money, second, the only option to identify the "opportunity cost of holding money" should be through free and real environment of investment plans (by investment it does not mean just the production plans, but also the plans to buy and sell assets, etc.), and third, since the difference between nominal and real interest rate is because of the inflation which itself results from artificial monetary operations (excess creation of money in a fractional reserve system, printing money without backing in a non-currency board systems, and the interest rate mechanism itself; interest-based lending that creates debt-based money more than the value added in the real sector), hence, in this school of thought, neither the nominal interest rate nor the real interest rate is economically or philosophically justifiable, and both of them could be removed or become meaningless by moving to a risk-based platform (PLS/PLRS) in a full-reserve banking system on a currency board.

words, if a benefit from the economic activity of the borrower is created, it is divided between the lender and the borrower, according to their risk/profit-sharing contract, and in case it is not profitable, then there will be no dividend. Also, if the loss arises as a result of the economic activity caused by the receipt of a loan, this loss, if not insured, must be shared between the borrower and the bank.

The goal: *No gain from thin air. No free lunch for profit-free or risk-free activities (contract level free lunch).*

4. **Bank-free approach to the banking industry:** This school, which should be viewed as a stricter version of the PLRS school, supports the idea that a real reform within the current system would not be possible by maintaining the traditional structure of the banking industry. The solution proposed to reform in the banking sector by this school of thought mostly bears no similarity to a banking system. In fact, it is a community of companies that carry out PLS (PLRS) in their dealings with the customers. This solution also includes institutions that can provide loans with a zero rate to customers who need money for urgent consumption needs, but those needs are not *PLRSable*.

The goal: It is the same as the previous section.

5. **Public money or monetary/credit guidance approach to the monetary system:** According to this view, which is effectively a spin-off from the endogenous theory of money¹¹ mixed with development-oriented theories, the banking system in the current structure creates the money/credit in an endogenous manner, without being kept in check by the central bank. Thus the conventional set of monetary governance and regulations which are based on the theory of exogenous money creation would become ineffective. Moreover, considerations about inflation during the monetary expansion process are of less importance compared to the considerations about development. The specific policy recommendation provided by this school of thought is that the central bank should activity create and direct credit to stimulate growth and enhance development. In fact, proponents of this view believe why developing countries should limit themselves to tax-based spending or conventional fiscal or monetary incentives in their development expenditures?

The goal: Capturing the capabilities of the current structure (fractional reserve banking) to use its potential in a more developmentally efficient and people-oriented way (to benefit the public and not the elite or the bankers, or those who have “access” to it, or the less-productive or low-value-added sectors like asset or

¹¹ There is also a less famous version of this school that without insisting on the endogenous theory of credit as the theoretical base, defends credit guidance mainly for the developmental purposes.

financial markets, etc.). Summarized briefly, the goal in this system is to seize the banking system's weapon and to use it to meet more useful objectives like to create credit or print money and to spend it on specific projects or to launch a large-scale credit rationing scheme.

2.2 *The Architecture; a 3-No skeleton*

Let us suppose that the plan is to build a Middle Eastern *non-conventional unconventional* monetary framework based on schools of thought promoted in the ME region that enjoy *the minimum level of economically acceptable capabilities/qualifications*. In other words, we adopt an *inclusive* (not idealistic or utopian) approach to use the unconventional ideas to design a monetary platform and thereby, to *leave the customization or calibration of the designed system to the user*, who can in practice weigh the ideas or prioritize them based his/her discretion and the real-world considerations.

The question is if the five sets of the ideas mentioned above are to be used to build an operational/practical framework, which one(s) should be discarded because it does not have the minimum *economic* qualification to be included in the toolbox of the *non-conventional unconventional* solutions.

Among the five examined unconventional schools of thought and their hybrid forms, the fifth one is clearly close to the magiconomic MMT-style theories. Therefore, because of theoretical flaws and economic side-impacts mentioned (in section 2.1: Policy shortcuts; artificial engines and pseudo-magic tactics), this class of ideas fails the litmus test of *the minimum level of economically acceptable* quality. In fact, they are excessively counter-productive, uneconomic, and non-economic to be used in constructing an unconventional ME-style economic structure and remedy. Thus, in order to design an unconventional monetary architecture and to prepare an action plan based on this blueprint, we drop this class of unconventional ideas from our toolbox and start to design the unconventional architecture using remained categories. Therefore, it seems that the available tools in our toolbox would be limited to the schools 1-4 of section 1.2 (Foundations).

A review of those remaining theories sheds light on three “freedom-from” or “negative liberty” (Berlin, 1969) or “No-to” type of goals in the different components or levels of their proposed monetary systems. These levels and components and the related denial and prevention clause (which can be summarized in *Triple freedoms* or the 3-No representations) are as the following:

Table 1. The **3-No** representation of *non-conventional unconventional* banking system and arrangement in the ME monetary schools of thought

Component/Level	No-to (Freedom-from) Concept	Target	Related School
System	No credit out of thin air	Fractional reserve mechanism	1 (Full reserve-like)
Instrument	No thin air in the value of money	Fiat money mechanism	2 (Currency board-like)
Contract(s)	No gain from thin air	Guaranteed gain mechanism	3-4 (PLRS)

An inclusive architecture based on the *economically acceptable (not-rejected by consensus) theories and criteria* (which results in a collection of all unconventional Middle-Eastern schools of thought minus school number 5) that corresponds to 3-No principles, can produce the final solution as: **“A combination or the hybrid of a Full reserve arrangement on the credit creation system level, a Currency board on the instrument/monetary vehicle level and a PLRS arrangement on the contract level”**.

Based on our study of each school and the related operational details, an extended/detailed version of the above statement—which is also applicable to the new-age/next-generation monetary considerations like distributed ledger technologies—can be called 3Fs (FFF) and includes a 3-part skeleton: **1- Full-reserve (FR) banking on the system level, 2- Free banking on Currency board ¹², or only a Currency Board on the instrument level and 3- Free from Subsidy (FfS) or "Subsidy-free" environment on the contract level.**

After working out a general solution and creating an expanded version of that solution, one should think about the operational details (expanded version) of such a solution or framework and how it looks like in practice and whether it can be adapted to cover the

¹² “Free banking on Currency Board” or Free board (FB) arrangement is a new-generation competitive Free Banking structure which is based on a Currency Board-like arrangement in which currency board sets the “common/reference unit with interesting value and convertibility” so that each bank or money issuer can issue their own version of money based on the common unit. For example, bank A or network A issues money named A-money or Coin-A with its own logo and branding, in 10, 100 and 1000 units banknotes in which each unit is valued at and equals 0.5 common unit. Bank B or network B issues its own money which each unit is equals 1 common unit, etc., and, Money-A, Money-B, Money-C, etc. can compete against each other in the exchange rate-like platforms or in a market based on the credibility of the issuers or other technical or non-technical facilities the issuer provide (for example the interlink with other platforms or acceptability in other markets, etc.). In this system which is based on a “Currency Board Hub”, the whole monetary system is based on the monetary vehicles with intrinsic value and convertibility.

current and emerging real-world realities? To that end, let us review the findings and thereby discuss the operational details of the proposed framework.

In such a framework:

- It would be systematically impossible for the banking system to create credit from nowhere,
- In parallel with the "**no credit creation from thin air in the banking system**" (by moving to the full-reserve banking), there will be "**no gain creation from thin air in the contracts**" (by moving to Free from Subsidy—including risk and gain subsidies—arrangement through profit and loss and risk-sharing in contracts). Moreover, the money has intrinsic¹³ value which will mean "**no thin air in the value of money**" (by establishing a Free Banking on Currency Board, or simply moving to a Currency Board, in which, either money is directly backed by a currency board or is redeemable through a new-generation competitive Free Banking structure with unified or plural/decentralized money types (banknotes or digital notes) which themselves are valued and based on a "common unit with intrinsic value" determined by a Currency Board-like arrangement and can be settled and cleared against each other, not against common unit, through dynamic exchange platform(s)).
- Active monetary policy and interest rate mechanism are abolished. There will be no monetization of the deficit by the monetary authority (hard budget constraint), and there will be no need for OMO and similar monetary instruments (market operates freely—it is the FMO mechanism— so that there is no need for artificial fine-tuning),
- It represents a radical change in thinking about the monetary policy transmission mechanism. Considering the fact that the objective of the monetary policy is to induce private sector portfolio adjustment (consumption, in the case of households and investment when it comes to businesses), conventional monetary theory transmits policy signals through the banking system. If there is no money market with a guaranteed profit/price (which is a subsidy) for the capital owner (in a broad sense and not in the limited sense of bank-to-bank transactions), then the role of the banking system changes dramatically. The objective functions of the banking system and that of the monetary policy may be different and, at times, they diverge, leading to a weakened monetary policy transmission mechanism. In the *non-conventional unconventional* system, non-active (passive and self-tuned) monetary policy bypasses the banking system and directly targets the private sector portfolio adjustment which makes the policy much more effective with a profound impact on investment and consumption¹⁴.

¹³ Based on a "not-bank-generated" marketable backing.

¹⁴ In a more broad spectrum, the fundamental (or one of the main) problem of today's economies are conflicting objective functions of various sectors of the economy. The objective function of policy makers (mainly politicians) is in conflict with that of the consumers (citizenry/tax payers). That is the idea articulated by public choice theory. The objective functions of policy makers (especially monetary

- The development duties of government (capital investment stimulus plans) must be financed/acquired (through taxing/PLRS based borrowing) from a part of the value created or transferred in the economy and it will be spent (through consuming/tax exempting/transferring/subsidizing/lending/credit directing) in it, also if there is no divisible profit that can be shared through PLRS mechanism for financing current expenditures of the government, there will be no borrowing for these kinds of expenditures and the government should limit its spending to its taxation capacity (“double hard budget constraint”),
- The over-financialization of capital and current financing needs by the government and the non-government sector will not take place (because of no-gain from thin air constraint, when PLS and Risk sharing (PLRS) are in place), and the financial sector mirrors (or grows proportionally with) the non-financial sector
- Total undivided return (profit or loss) of a financial contract or an investment project for both the financier (lender or investor) and receiver (borrower or partner) which is called the “Total Rate of Return” (TRR), the rate of sharing TRR between financier and the receiver which is called the Total Rate of Return Sharing Rate or TRRSR or simply “Profit and Loss Sharing Rate” (PLSR), and the more generalized concept which includes the risk factor, “Profit and Loss and Risk Sharing Rate” (PLRSR), will replace the traditional monetary variables including interest rate and will fluctuate and act, based on the real sector conditions, as the endogenous embedded countercyclical and self-tuning variables of the financial sector (contrary to the traditional financial system that by itself generally lends too much in good times and too little in bad times and amplify the cycles).
- Two factors are essential for the financier (lender or investor): Having positive gain (receiving something, at least not losing the initial investment or a considerable amount of it) and having (high) certainty of receiving it (at least keeping the initial amount of loan with high probability).

authorities), which is ostensibly welfare maximization, may be in conflict with the objective function of the financial sector (profit maximization). Financial sector which is to serve as the transmission mechanism of the monetary policy has the power not to perform this function if it serves its profit-maximizing objective not to do so. Hence, monetary policy becomes impotent. Similar arguments can be made for fiscal policy, industrial policy or other policies. So long as economic agents live or interact in a systemically risk-free or less-risk environment, huge element of moral hazard exists for economic opportunism. What are the solutions? Our ME approach argues that these conflict in objectives can be removed by various devices. The conflict in the objective functions of politicians and citizenry can be removed by implementation the Currency Board. From a public choice theory point of view, the idea of currency board has the potential to remove a major part of opportunism in the monetary (and by extension, fiscal and exchange rate) policy formation. The conflict between the objective functions of the monetary policy and that of the financial sector could be removed to a great extent by deploying a 100-percent reserve system banking. Also, the conflict between the objective functions of the policy makers and tax payers as well as among the economic agents can be removed via the implementation of concept of PLS (PLRS) or risk sharing; which means every economic agent involved in economic activities has "skin in the game", and a monetary system is with "no free rides" (without "free lunches"), which is the core idea of the solution.

In other words, financier's gain¹⁵ (FG) is a function of 1- the Rate of Gain (RG) without consideration of risk factor which can be positive, zero or negative¹⁶, and 2- the possibility (risk) of realization of RG which has a range of zero to one. Therefore, the combination of RG and the risk factor (probability of realizing the gain and sharing it) results in the financier's gain.

Financier's (lender or investor's) gain = f (RG, p (RG)),

In which:

- For investor: $RG = f(\text{TRR}, \text{PLSR})$, Therefore,
- $FG = f(\text{TRR}, \text{PLSR}, p(\text{TRR}))$ or¹⁷ $f(\text{TRR}, \text{PLSR}, p(\text{TRR}, \text{PLSR}))$

Hence, when the Rate of Gain is assumed to be low, zero, or the possibility is small for realization of positive RG (or the likelihood of zero or negative gain is high), the financier's gain (FG) decreases, and the financier's loss (FL) which is conversely related to FG—in terms of the amount of the gain and the probability of achieving the gain—increases.

In the current system, interest acts as the subsidy ("gain subsidy" and "risk subsidy" in the form of a certain nearly guaranteed amount of positive gain) distribution instrument of the banking system or that of the government for financiers (lenders or investors) in order to compensate and persuade them to launch "more riskier" or "lower return" loans or investments. This subsidy, in turn, increases the supply of loans/investments in whole by increasing the FG (or reducing the FL). Giving banking subsidy to the financiers via interest also can be viewed as a systemic and implicit subsidy granted to the high-risk, low-value-added, more-connected or high-access borrowers or investment receivers in a manner that they can enjoy access to resources while being economically inefficient.

Hence, removing that subsidy on the system level **will lead to a lower FG (higher FL) compared to the current situation, and it will re-adjust (decrease) the supply of the loans.** Moreover, it will limit the amount of resources granted to high-risk, low-value-added borrowers.

In fact, removing or decreasing banking subsidy for financiers, in addition to removing (or lessening) bad/riskier/inefficient loans/investments, will adjust

¹⁵ The same concept applies to borrower or investment receiver/partner.

¹⁶ In the case of investment, the RG is the function of both total rate of return (TRR) and the rate of sharing the return, or profit and loss sharing rate (PLSR) which can have a range of zero to one.

¹⁷ In case a risk exists in realizing the sharing rate.

(balance) the supply of loans (financial sector) with the risks and the rate of return (overall realities) in the economy as it would prevent over-pricing or bubbles in the prices of the assets and would finally make the economy less vulnerable to this type of systemic risks, and more importantly, less dependent on the most significant distributed subsidies of the economy which is the banking subsidy. The result is a healthier environment.

Subsidy driven economies underperform compared to the free-market economies, mainly because the subsidies (especially price subsidies) distort the signaling procedures of the system, and they should be stopped at the most prevalent systemic level.

- In case of a need for distributing FG subsidies for lenders/investors¹⁸ (which is, at the same time, an implicit systemic subsidy for the high-risk, inefficient or low-zero-return borrowers), it would be better not to make distortions at the systemic level of the market as it could distribute subsidies in the whole monetary system level and turn the banking industry into an inefficient or unfair charity and finally, it would weaken the entire framework systematically by making the interest mechanism a system variable. Instead, the system should be subsidy-free (interest-free), and the loans that increase the gain of financiers (and then help borrowers or investment-receivers) should be explicitly labeled and recognized as “**subsidized loans**”. Alternatively, it can be done through putting in place various types of contracts instruments, for example, by custom (under/over)-pricing in installments, or even through establishing some credit institutes/platforms that economic agents (government/borrowers/lenders) subsidize themselves for economic/support/philanthropic motivations, apart from the normal and subsidy-free mechanism existing in the market. A lack of proper care or a failure to bear in mind such considerations will internalize these distortions on the system level (the market) or will result in the development of subsidy-ridden shadowy markets—where financiers can extract and absorb the subsidy—which is both economically inefficient and clearly disrespectful of the market mechanism.

A solid foundation and a well-designed plan to build a structure are viewed as the two basic requirements of a robust building when it comes to quakes, floods, and hurricanes. However, a well-defined procedural roadmap would also be needed to implement the building plan. In the next section, we try to design such a roadmap for our blueprint.

¹⁸ For example for subsidizing lenders/investors who lend to/invest in risky enterprises or projects with higher uncertainty or low returns, or for consumable good needs that have zero economic return - which makes them not PLSable- for some people that cannot afford to buy them on their own and therefore need financing.

3. An Action Plan

A realistic action plan that aims to move smoothly toward a new framework should consider the operational, functional, and procedural constraints, priorities, and objectives. Specifically, it should be able to explain the planning and the strategy of the implementation process, and the standards, protocols, and guidelines that should be considered or be prepared during the implantation, and also the technological aspects of the implementation.

For the sake of explanation (and also to make it easier to memorize) we outline these considerations through a 3T explanatory presentation framework which includes the three structural dimensions mentioned before:

- **1.3. Tactic;** *Considerations about planning, phasing, timing, etc. (in general, the strategy for implementation)*
 - **Timing:** *Crisis, what crisis?*

Crises normally provide the best time to implement an alternative monetary system or arrangements, as it is usually during such times that the conventional solutions fail—even in some cases, the crisis itself is the result of a failure in conventional solutions—and the bureaucratic friction/inertia is minimized while the “organized groups lose their power” (Ranciere and Tornell, 2015). The question is how to spot the best time to decide whether an ongoing crisis could be a good candidate to roll out an alternative arrangement? In fact, the best time is when the frustration and despair in the current system and the need for a new system boils over, and this is precisely the time when *the system works against the majority of stakeholders* (not just those who are in power or have loud voices in the power or media). As Drazen and Grilli (1993) argue, crises may be useful for reforms when social distress in an economic crisis *implies that an economy has settled in a Pareto-inferior equilibrium, and radical changes are needed*. This effect is felt stronger when the crisis leads to a recession and *acts as a catalyst for structural reforms* (OECD, 2012). The fact is that the bigger the crisis, the bigger the opportunity to make the deeper "wholesale reforms" feasible, which may be necessary “to bring the financial system to heel” (Roubini and Mihm, 2010) and create a “new global economic order” (Stiglitz, 2010). However, it is also true that there is no need to delay all efforts until the crisis takes place (or when the media cover the final phase of the crisis). In other words, some steps, for example, the initial efforts to prepare and persuade the policy shapers, the decision-makers or the public, may be feasible when the headline economic indicators warn there is no crisis ahead, although the

underlying situation and the public feelings signal an unfolding tectonic shift in the balance between the general satisfaction and the status quo existing among the stakeholders.

○ **Transition:** *Gradualism or front-loaded reform?*

There has been no consensus among scholars as to make a choice between the big-bang and the gradual/incremental approaches to reform (Feltenstein and Nsouli, 2003). However it seems that the front-loaded, one-step, *big-bang-style* reform is preferable during or after the crises, or when the economic environment is changing rapidly, as it would eliminate the possibilities like falling into a “slow-reform trap” or missing the “political window of opportunity” (Dabrowski, 2015), or before it’s too late to install a new system as a new status quo is being established. However, if there is no crisis underway and the economic environment is stable, and also there is no public demand for emergent new actions, gradualism would be the better method for implementing a reform process, mainly because it *sparks less political/bureaucratic resistance* among the stakeholders. It should be noted that this transition can be more effective or smooth if it can be done both in domestic and international level¹⁹.

In this context, learning from previous experiences of the transition to a new system similar to that described in this paper can be useful. Hanke and Tanev (2019) have described a successful example of this transition and the need to continue and expand it in the present age.

○ **Terminating:** *How to say adios to the old system?*

The main problem with terminating an old system is the costs that come with the termination process and issues related to who should pay the costs. These costs may increase due to direct or indirect financial expenditure, which mostly emerges in the form of loss of funds or loss of profits for some stakeholders, or costs associated with human resource, when it comes to outdated/excess resources or newly-needed expertise, or managerial costs—arising from coordination or training needs—or technical costs related to the new software or infrastructure-related costs, etc. Another problem that could arise is the need for and the scale of the parallel or simultaneous working of two systems (if a pilot or parallel stage is needed, when and on what stage

¹⁹ For example, creating fiat money from thin air, without direct real backing, can also be interpreted as a scheme to create internationally unfair advantage through economic doping of domestic producers and consumers, creating an artificial and unfair from-nothing welfare and sterilizing it via exporting inflation (just like currency manipulation and unfair tariffs). Hence, in addition to solving the problem at the local level, it can be considered as an international or multilateral competition or level playing field structural issue and needs to be solved cooperatively at the global level too.

the old system should be discarded), etc. Since these questions are more *managerial* in nature rather than being related to economic or monetary policy issues, there is no simple, one-line and one-size-fits-all answer to such questions, and any answer should depend on the managerial *capacity*, the depth and the situation of financial markets and the banking system, and the fiscal room available to burden the costs (it is preferred that any reform is made as far as possible from the resources that exist inside the system or through bail-in-like procedures. However, it may seem politically infeasible during the implementation process, as there would be a need for external resources). The final point is that in order to terminate the old system, there should be no use of the same trickery tools that had been adopted to save the same system. Hence, creating and distributing something from nothing to incur the costs of termination or to make the transmission politically or Econo-politically more trouble-free is not acceptable, because, among other factors, that would preserve and immortalize a component in the legacy of the old system (created from nothing elements) in the new system. In other words, there is no shortcut to freedom.

- **2.2. Technique;** *Considerations about guidelines, standards, protocols, know-hows, and how-tos*

In addition to the issues related to strategy and design, there are some significant issues about technical aspects of the implementation process. By the term technique, in the context of this study, we mean *subjective software* (not technological tools or requirements) that are needed to handle the new system effectively or smoothly, some of which we elucidate in the following (selected from a lengthy list of issues):

- **Tunability:** *How to fine-tune the system?*

One of the crucial issues about the sustainability of a system is the tools, guidelines, and protocols available to fine-tune the system. However, what matters, even more, is how strong is the possibility that a need for such interventions would arise in any system? The tricky point is that when you build a system based on internally-embedded disruptive elements (e.g., subsidies as a system variable), a move which makes the “disruptions/fluctuations a feature of the system, and not a bug or temporal problem in it”, then you will need a complex or sophisticated toolbox for correcting and fine-tuning instruments that “may” enable you to return to the normal in case some “system-made fluctuations” emerge. The proposed solution in this study has been based on the assumption that when you

rebuild the system on Full reserve-Currency board²⁰ or Full reserve-Currency board-PLRS (or Full reserve-Freeboard-PLRS) arrangements, then it will be protected against a significant number of self-made disruptions/frictions/fluctuations, not because it will have more fine-tuning instruments (a.k.a. monetary policy tools)—in fact, active monetary policy will not be systematically possible in the proposed system—but because 1) It will be, to a large extent, “self-tuned” (as the monetary system acts as a mirror for the real sector) and also 2) It will be—most of the times—“disruption-proof” against the “self-made disruptions” caused by a monetary system which is subsidy-driven and thin-air-based. In other words, significant phenomena like financial bubbles, asset bubbles, *X-bubbles* or *every-thing bubbles* will not be tolerated in the new system (on a large scale), and there will be *no need for a medication to treat a pain that does not fundamentally exist*.

²⁰ *Some technical clarifications:*

- Full reserve banking is not equivalent to the currency board, however, both of them impose some kind of restrictions on the money or credit creation mechanisms. Full reserve banking is the characteristic of the credit creation mechanism of the whole banking system and not only a characteristic of the money creation of the monetary authority.
- In the full reserve banking system, banks should keep the depositor's funds in full. However, generally, in such systems it would only be the demand deposit accounts that is not loaned out, and the rule is not applied to the time deposits, so it can be loaned out – in our model - for investment projects or for not-PLSable interest-free loans. Generally, the ratio of borrowed resources to time deposits in the proposed full reserve banking system should be equal to one or near one. However, in some proposals, because of the variance and difference in the life time of deposits and the loans, there could be a passive (mainly for calculatory purposes) and weak multiplier, both legally or practically.
- Under full-reserve banking, banks generally don't earn revenue from demand deposits, because they don't lend them out to depositors. Thus, generally speaking, depositors should pay fees for the services associated with checking accounts (However, banks may, most probably, compensate the costs from their resources for the competitive or market share reasons).
- Full-reserve banking may be the constraint on all definitions of the money supply from M0 to MB, M1, M2, etc., while, in the currency boards (generally in the orthodox view to the currency boards), M0 or MB (and not other definitions of money) should be at least 100 percent backed and convertible to reserve foreign currency or base asset.
- The money issued by the currency board should be backed either by foreign fiat money or assets like gold or both of them. The money issued by a Middle East-style currency board is better to be backed by asset, not the external fiat money (except for the situation where the foreign reserve itself is backed by assets too). On the other hand, a full reserve banking system can be operated on a money issued by the central bank which can be backed or "unbacked" with foreign fiat money or assets like gold.
- Full reserve banking could be coupled with a currency board or not. In our ME solution, it's coupled. In a Full reserve-CB model, the creation of non-central bank money (non-monetary base money or private money) weakens (because the fractional capacity to create credit from deposits, especially demand deposits decreases, depending on the type of full reserve banking and its constraints on credit creation and money multiplier), therefore the share of fully backed money in the banking system, in the whole definitions of money supply, drastically increase.

Accordingly, there will be no need to sizable and costly bureaucratic monetary institutions or money supply interventions or interest targeting operations (like OMO). However, apart from monetary issues, we should ask what would be left in the policy maker's toolbox to engage in discriminatory growth-stimulating practices or apply support policies in the new monetary system? The answer is that fiscal problems should essentially be solved through fiscal tools (government operations, tax, tax exemptions, subsidies, transfers, etc.), not through the modification and weakening of the systemic parameters of the monetary system. In other words, "support"²¹ policies are (should be) mainly a responsibility of the finance minister or real/ efficiency or productivity-enhancing/fiscal-sector-related government or non-government operations or re/de-regulations, and not that of the printing machine of the central bank or the artificial monetary operations. It is worth noting that the fiscal sector operations would also face considerable constraints in the proposed monetary system (in efforts to make the whole system disruption-proof):

1- Hard budget constraint: Government is not allowed monetize its deficit or debt (because of a currency board-like arrangements in place)

2 - Double hard constraint: Government is not to borrow to settle its "current/consumption" expenditures if there is no shareable profit or gain in the real sector; thus, the government should either define a PLRS-able scenario (similar to its capital expenditures and projects) for the current expenditures, or it should commit to interest-free borrowing (because the PLRS is in place).

○ **Troubleshooting:** *How to fix the moving machine?*

Monetary system is only responsible for the problems and the turbulence it may create or the problems it may face due to its own performance, and not responsible for the troubles and turbulences of/caused by other systems or sectors, including the productivity problems in the manufacturing or real sector or irresponsibility seen in the fiscal sector. Hence, it should not be systematically forced to offset the impact of those weaknesses on the welfare of the economic agents. Since the design of the proposed system bans such economic dopings, there would be no need for how-tos or protocols to satisfy such needs.

²¹ In its broad definition which includes poverty alleviation, growth stimulation, or even pre-emptive policy strikes against possible recessions.

In other words, the main objective here should be: 1- to make the monetary system *a non-troublemaker*²² from the *systematic point of view* and 2- to systematically prevent the monetary system from being used as a bumper, airbag or an underwriter of burdens caused by other sectors' turbulences. The monetary troubleshooting should be a question of the monetary system's own troubles in practice, not those of the other machines'. Since the proposed mechanism has a minimal, less-interventionist, less-bureaucratic approach to the monetary system, the troubles caused by the actions of the monetary system would also be at their minimum. Moreover, the monetary system is not responsible (cannot be actively responsible even if it wants to) for the outcome of the actions, competitions, or misbehaviors brought about by other sectors. In fact, acting like a referee in a football match, the monetary system acts as the intermediary and facilitates the actions of the economic agents; structurally speaking it will only need to care about its own duties, full stop. If there is a problem in the real sector, the real sector should solve the problem by its own, not through artificial interventions by the monetary system that also can/will have numerous adverse effects on other sectors or players.

- **Transparency:** *Corruption, taxability, trans-border transactions monitoring, governance, etc.*

Another technical point about the functions of the monetary system is the considerations of transparency. Transparency is essential because it affects many other aspects, including taxability of the system, corruption, and crimes, various governance aspects, money laundering, etc. The proposed solution immensely enhances transparency, because by abolishing implicit monetary subsidies/rents in money/credit creation/distribution mechanism, which is done by the banking system, and in the gain creation/distribution enjoyed by the economic agents, the flow of economic activities and the stock of wealth generated by such activities will become more transparent,

²² For a detailed discussion of the benefits of full reserve systems, see Lainà (2018). For a discussion about full reserve banking as the "run-free" system (in terms of systemic runs, not just banking runs), see Cochrane (2014). For a historical review of the full reserve proposal and related arguments in the Chicago plan, see Phillips and Minsky (2016). For a recent examination of Fisher's (1936) 100% reserve banking proposal (in the Chicago plan) see Benes and Kumhof (2012) where the two categorize Fisher's claims, which are in favor of full reserve banking, to four claims: "(1) A much better control of a major source of business cycle fluctuations, sudden increases and contractions of bank credit and of the supply of bank-created money. (2) A complete elimination of bank runs. (3) Dramatic reduction of the (net) public debt. (4) Dramatic reduction of the private debt, as money creation no longer requires simultaneous debt creation" and to study these claims by embedding a comprehensive model of the banking system in a DSGE model of the U.S. economy and to find support for all four claims by Fisher's. Furthermore, and maybe more importantly, their model shows that output gains the real sector approach is 10 percent, and steady state inflation can drop to zero without posing problems for the conduct of the monetary policy." For a recent real life review of the banking/financial system-generated troubles see Mian and Sufi (2015).

more fairly (less or more) taxable and less prone to corruption and crimes. The systemic transparency increases mainly because when there is no rent or the rent is less than expected, the systemic and not-systemic effort to hide the flow of rents decreases. Although the proposed system, by its nature and in essence, is systematically more transparent than the conventional system, the implementation and maintenance of the system should be designed in such a way that it can be able to meet the usual and legally binding protocols and guidelines.

- **3.3. Technology: Considerations about network, applications/software, and hardware**

The last, but not least crucial essential layer of the system is the physical (soft and hard) layer, in which it interacts with financial data and enacts the accounting procedures of the framework. In the reformed system proposed here, like other systems, this layer should perform and satisfy some necessary and complementary technological requirements and responsibilities, some of which, discussed below, are significant, given the new system's reform priorities:

- **Transformation: Making the transition smooth**

It is expected that there should be no such difficulty in handling/converting/transferring data from the old system to the new one (data categories do not differ in most cases, and it is only the rules of governance in the system, and some accounting procedures, that will change). However, some necessary precautions must be taken to handle such possible cases.

- **Tally and track: Making PLRS feasible**

The critical bottleneck of the proposed system lies in an IT-based financial accounting system which allows having a detailed track and tally of the contracts considering the amount of the profit and the loss generated in each investment project and the share of lenders/investors/borrowers/partners, based on their risk/gain-sharing commitments. Such a system should be able to determine the share of each stakeholder in a pool of investments (it should be able to assign and keep as much investment as possible in the more segregated pools of projects) and distribute the appropriate outcome (profit/loss) among them. This system should also be able to keep and track the records of items that are collected and assigned outside the PLRS mechanism (interest-free loans for consumable goods, etc.). Without having such a system in place, the whole proposed framework may face a big problem as it might become ineffective or nominally effective.

○ **Transmitting:** *Making the value of Blockchain real*

If the user of the proposed system (the government in the current situation or a decentralized monetary society in future—where no central bank may be present or when the debt-based money is abolished to be replaced with another monetary social contract) wants to run a blockchain/distributed ledger enabled version of the system, in which money or credit are transmitted/or issued throughout a blockchain network, a competitive free banking on a currency board-like monetary hub or an intermediary could be the ideal solution (various versions of this arrangement, including more controlled versions, can also be customized and become operationalized. For example, in a very controlled version, the blockchain network will only act as the transmitting environment for the traditionally-issued money and not as the issuer itself). In such a situation, the members of each network or members of multiple networks can *talk to each other* via a *common/standard/reference monetary unit with an intrinsic value* that is set by the monetary hub (currency board) and the value of different monetary vehicles (network monies) issued by each network may fluctuate against each other, not against the common unit, within one or multiple exchange-like markets.

Conclusion

Policymakers use a set of conventional monetary instruments along with some currently prevalent unconventional tools to overcome and manage crises. However, the frequent use (or attempt to use) unconventional monetary tools— like QE—has made them conventional and ineffective under some circumstances. The current study tried to answer the question, from a Middle Eastern point of view, that in a possible crisis where both conventional and currently-conventional unconventional tools become ineffective, what would be left in the policymakers' toolbox to handle the situation? The answer, based on a comprehensive review of unconventional schools of thought established in the Middle East is as follows:

- A monetary system in the current form acts as a big subsidy distribution machine which creates and distributes monetary rent from nothing or almost nothing to the benefit of some economic agents at the cost of other parts and in the form of decreasing the purchasing power of the money (inflation tax) or causing artificial economic cycles, abnormal asset bubbles, or financial crises.
- To mitigate the adverse self-inflicted problems, the current system uses the tools that spark new side-effects on themselves and have been proven ineffective or somehow ineffective in the context of some/most of the crises.
- To fix the problem, problematic and magic tools should also be avoided. Getting to the destination late, but hale and hearty is better than reaching there rushed and harmed.

- To treat the problem, basically and fundamentally, the system should be redesigned and reprogrammed in such a way that the old subsidy-driven monetary system could be replaced with a new competitive free market subsidy-less structure.
- The study proposes a three-layer architecture which systematically prevents artificial manipulation (most importantly, it stops generating and distributing rent or subsidy from nothing among the participants that leads to a suppressed and suboptimal economic environment).
- On the system level, it proposes the Full-reserve notion, to prevent credit/money creation from nothing. On the vehicle level, it proposes a Currency board-like system (Free banking on Currency board or Currency board) to prevent issuing money without intrinsic value from nothing (fiat money), and on the contract level, it proposes a profit and loss and risk-sharing (PLRS) arrangement to prevent creating gain by doing nothing or incurring no risk.

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