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Leonidas Zelmanovitz

Zelmanovitz, L. (2010). In face of changes in the demand for money, ¿what is the proper response by the central bank? Criterio Libre, 8 (13), 69-94
ISSN 1900-0642

IN FACE OF CHANGES IN THE DEMAND FOR MONEY, ¿WHAT IS THE PROPER RESPONSE BY THE CENTRAL BANK?*

*LEONIDAS ZELMANOVITZ***

Fecha de recepción: agosto 23 de 2010
Fecha de aceptación: octubre 20 de 2010

ABSTRACT

This paper considers the question: - "In face of changes in the demand for money resulting from an increase in the risk perception by the economic agents, what are the proper actions the Central Bank should take?" as a starting point for a normative conclusion about the convenience of a monetary regime with a State monopoly of the money supply, forced legal tender and central bank versus the alternative of competitive money supply.

KEYWORDS:
Money Demand, Liquidity Preference, Quantity Theory of Money, Monetary, Money, Money Stock.

JEL CODES:
E41, E51, E52, E58.

RESUMEN

¿ANTE LOS CAMBIOS EN LA DEMANDA DEL DINERO, ¿CUÁL ES LA RESPUESTA APROPIADA DEL BANCO CENTRAL?

Este papel considera la pregunta: "Ante los cambios en la demanda del dinero como resultado de un aumento de riesgo por los agentes

* Artículo producto de la investigación, correspondiente a La Línea de investigación en Mercados Monetarios, de the conference Program of Liberty Fund.
** Licenciado en Derecho, Universidad Federal, Porto Alegre, Brazil; Magíster en economía austríaca, Universidad Rey Juan Carlos, Madrid, España, Liberty Fund Fellow, Indianapolis - Estados Unidos, lzelmanovitz@libertyfund.org.

Criterio Libre N° 13
Bogotá (Colombia)
Julio-Diciembre
2010
Pp. 69-94
ISSN 1900-0642

económicos, ¿cuáles son las acciones apropiadas que Banco central debería tomar? " como un punto de partida para una conclusión normativa sobre la conveniencia de un régimen monetario con un monopolio Estatal del suministro de dinero, la respuesta es moneda legal forzada versus la alternativa de suministro de dinero competitivo.

Palabras clave: Demanda de Dinero, Preferencia de Liquidez, Teoría de Cantidad del Dinero, Monetario, Dinero, Acción de Dinero.

RESUMO

¿FRENTE ÀS MUDANÇAS NA DEMANDA DE DINHEIRO, QUAL É A RESPOSTA CORRETA PELO BANCO CENTRAL?

Este trabalho considera a pergunta: "Frente às mudanças na demanda de dinheiro como resultado de um aumento na percepção do risco pelos agentes econômicos, quais são as ações apropriadas que o Banco Central deve tomar?" Como ponto de partida para uma conclusão normativa, sobre a conveniência de um regime monetário com um estado monopólico da oferta de dinheiro, moeda de curso legal e forçoso, e o banco central diante da alternativa de oferta monetária competitiva.

Palavras-chave: A demanda de dinheiro, preferência pela liquidez, a teoria quantitativa do dinheiro, Teoria Monetária, quantidade de dinheiro.

RÉSUMÉ

EN FACE DE L'ÉVOLUTION DE LA DEMANDE DE L'ARGENT, ¿QUELLE EST LA REPONSE APPROPRIEE PAR LA BANQUE CENTRALE?

Ce document considère la question: - «En face de l'évolution de la demande de l'argent résultant d'une augmentation de la perception du risque par les agents économiques, quelles sont les actions appropriées que la Banque centrale devrait prendre?" Comme point de départ pour une conclusion normative sur la convenance d'un régime monétaire à un monopole d'Etat de la masse monétaire, la banque centrale se débat entre un appel d'offres légales et l'alternative de la masse monétaire compétitive.

Mots clés: La demande de monnaie, la préférence pour la liquidité, la théorie quantitative de la monnaie, money stock.

1. INTRODUCTION

In any society with a monetary regime that allows expansion of monetary instruments beyond the availability of goods and services in the real economy business cycles are to be expected, reflecting the periods of overconsumption and overinvestment followed by the contractions necessary to adjust supply and demand in the real sector as mediated by the competing claims represented by money and quasi-money over a limited amount of real resources. In the real sector, the distortions introduced in the economy during the expansionist period is reversed by the "Ricardo effect"; but in the financial sector, that mismatch between the competing claims and the available resources is reflected in a time mismatch between financial assets and liabilities.

Obviously, different monetary regimes are more or less conducive to the expansion of money and credit according to their different features. A gold standard with banknote issue and bank deposits fully backed in bullion is less prone to inflation of the money supply than a gold standard with fractional reserves, and both systems are potentially less inflationary than a regime of forced tender fiat money, fractional banking and central bank that is currently in force almost everywhere.

Under fractional banking, therefore, busyness cycles are potentially expected to happen more often and with sharp swings than under regimes of fully backed money supply. That is not to say, however, that under a 100% reserves system mismatches cannot occur as the mentioned above.

The fluctuations in the supply of money and credit, as briefly stated above, may produce upturns and downturns in the economic activity and the fluctuations under fractional banking are sharper than under other arrangements. But it is important to note that fractional banking is good at not only in increasing the money supply, but also in decreasing the money supply. So, under the monetary regimes today, there are not only moments when the money supply can increase without constraints but also moments in which it can decrease very dramatically.

A parallel phenomenon is the one of variations in the demand for money. Obviously supply and demand for money are related in a number of different ways; the most obvious of them is that when the supply of money increases to the point of affecting its purchasing power, it is reasonable to expect that the demand for holding money tends to decrease. But there are many other ways in which they are interconnected and the one that will be discussed in this paper is the one that an increase in the demand for money leads to a decrease in the money supply at the turning point of an upturn into a downturn in the business cycle and that happens when some monetary instruments cease to be money, that is, lose their monetary properties in the middle of a "flight to liquidity".

So, under monetary arrangements of fractional banking, fiat money and central bank, at the tipping point of the business cycle, the central

bank can allow the money supply to increase, to decrease or it can attempt to keep the money supply constant. Although these options will not be discussed in this paper, it is part of the argument presented here that the variations in the demand for money must be taken into consideration when the central bank decides which course of action to follow.

But more than that, what it is purported to be demonstrated with this paper is that none of the possible courses of action open to the central bank leads to an optimum result for society. It is true that with this paper a prescription is suggested about what course of action the central bank should adopt in face of an increased demand for money at the beginning of a downturn, but much more than an instrument to conclude about which monetary policy to follow under those circumstances, because of the unsatisfactory result achieved, the entire exercise must be understood as an argument against the current monetary regimes and not as a way to mend it.

1.1 THE DEMAND FOR MONEY

There is a difference between the amount of money that each individual uses at any given day to perform his transactions and the amount of money that he aims to keep at the end of the day. The latter may be referred as "cash balance" and it is the aggregate preference of all economic agents for holding cash balances that represent the *demand for money* in society.

1.2 THE SUPPLY OF MONEY

The *supply of money*, on the other hand, may be supplied competitively or by a monopoly[1]. Money is supplied competitively when there is no legal forced tender, i.e., when there is no legal provision mandating the use of a given currency by the economic agents; and there is the case of a monopoly of the money supply when such legal provision is in force.

1.3 MONEY IS LIKE ANY OTHER ECONOMIC GOOD

It can be stated that all economic goods may be classified in three categories: - i) the capital goods, ii) the consumer goods, and iii) the media of exchange. The capital goods are the ones that have their utility derived from their capacity to produce other goods; the consumer goods are the ones that have their utility derived from the satisfaction to human wants that they provide; and the media of exchange derives their utility of being instrumental for the acquisition of other goods. Since the utility of media of exchange is a consequence of its instrumentality for the acquisitions of other goods, some authors classify them as capital goods.

Whether or not the media of exchange is a capital good is not a relevant issue for the topic discussed in this paper[2]. What is relevant is the fact that money is an economic good like capital and consumer goods and, therefore, money is subject to the same laws

[1] For the purposes of this paper, when a monopoly of the money supply is referred, a monopoly created by law is what is meant and not a natural monopoly in the supply of money that may spontaneously arise under a competitive framework.

[2] For a discussion on money as a capital good, see Barnett II, William and Block, Walter – *Money: Capital Good, Consumer's Good or (Media of) Exchange Good?* – The Review of Austrian Economics, 18:2, 2005, 179-194.

that command the behavior of the individuals in relation to those other goods.

1.4 MONEY IS A GENERALLY ACCEPTED MEDIUM OF EXCHANGE

The definition of money adopted in this paper is the GAMOE definition of money: "money is the Generally Accepted Medium of Exchange"[3].

So, it is a contention presented in this paper that the generally accepted medium of exchange in society is subject to the laws of supply and demand in a similar fashion like any other economic good.

Due to the fact that money is generally not only the medium of exchange but also the unit of account in society, the variation of its price in relation to all other goods must be understood as a change in its purchasing power[4].

So, it has been said until now that like any other economic good, money is subject to the laws of supply and demand; that money is an economic good that derives its utility from its use as a medium of exchange; that the aggregated amount of money that each economic agent chooses to keep as cash balance is the demand of money; and that the supply of money may be institutionally framed to be provided competitively by the market or monopolistically by the state.

1.5. WHY TO KEEP CASH BALANCE?

Going forward, an intriguing question that may be asked is: - why do the economic agents choose to keep cash balances?

[3] The GAMOE definition of money was first developed by Carl Menger, it assumes that money is a spontaneous social institution that it is developed in society in order to facilitate the economic transactions and therefore allow and enhance the division of labor by diminishing the transaction costs of bartering. Key features of the GAMOE conception of money are that the monetary institutions are subject to the same evolutionary pattern of other spontaneous institutions and that the central attribute of monetary merchandise is its suitability to perform the function of medium of exchange. It is also important to note that, in accepting the GAMOE definition of money the other two main functions of money, i.e., its capacity to be used as an unit of account and as a store of value, are derived from its central attribute. Opposed to the GAMOE definition of money is the *Nominalist* concept that the value of money is nominal, i.e., given by law. This concept was first developed by Georg Knapp. According to this conception, money is a creature of the state, created as an instrument for state policy and the value of money is the one attributed to it by the state.

[4] If the GAMOE definition of money is accepted, money becomes anything that comes to be generally accepted as a medium of exchange. So, not only commodity money, but also fiat money, bank deposits available on demand and credit instruments with extremely high liberative power may be considered money under this definition. In fact, the distinction between money and quasi-money becomes somewhat blurred. That is so because, given some circumstances, some financial instruments may lose or acquire liquidity to a degree of becoming "money", while a fiat currency may lose totally the confidence of the money holders and cease to be considered money. As written by Professor Leland Yeager in his book "The Fluttering Veil":
"At some point, apparently, the shading or drift from the properties of close near moneys toward those of money become a jump from a difference in degree to a difference in kind" (Yeager, 1997: 109).
Since the definition of money adopted in this paper is the GAMOE definition, the concept of "money supply" in this paper must be understood not only as variations in the monetary base, but variations in the monetary aggregates as well. For instance, prior to the current financial crisis, certain credit instruments such as Mortgage Backed Securities issued by quasi-governmental Federal agencies with the implicit support of the US Treasury were deemed by the agents in international capital market as fitting the liquidity requirements to be held as the invested assets of money market mutual funds. Being money market funds a form of investment with availability at D+1, with virtually no transaction costs, assets parked in these funds have indirectly acquired practically the same liquidity as resources deposited in checking accounts. During the current crisis, however, these instruments have lost the former level of credibility, starting to be traded at a discount. Therefore, they lost their liquidity, they are not perceived as possessing quasi-monetary attributes anymore and one may say that the trillions of US Dollars invested in those assets are no more part of the money supply as before.

Since the utility provided by money is a consequence of its attribute of being generally accepted in exchange for other goods, it is in this "stored potential" to have ready access to the available economic goods in the market that one must search for the answer.

It has been said that if the individuals had perfect knowledge about the future, no money would be necessary:

"…, the main function of money for most people is to bridge the gap between present and future, which is necessitated by the uncertainty of the latter. If the future were known with certainty, there would be no need for money" (Barnett II and Block, 2005: 189).

Obviously, the above quoted statement is just an exaggeration made by its authors in order to stress a point. And that is so for a number of reasons: a) after all, money is needed in order to ease the daily transactions of the economic agents; b) even if they knew the future "*with certainty*", still, the inflows and outflows of cash of each family and business are uneven; and c) one must not forget that there are transaction costs in buying and selling any other form of wealth.

Exaggeration as it is, the link between uncertainty about the future and the decision of keeping cash balances is crucial to understand the demand for money. In the words of Mises:

"The uncertainty of the future makes it seem advisable to hold a larger or smaller part of one's possessions in a form that will facilitate a change from one way of using wealth to another, or transition from the ownership

"Due to the fact that money is generally not only the medium of exchange but also the unit of account in society, the variation of its price in relation to all other goods must be understood as a change in its purchasing power."

> *"As confirmed by the empirical evidence time and again, the economic crisis, the recessions and the depressions are nothing more than the more or less prolonged and severe period (according to the circumstances of each business cycle) of time required for the corrections of all the misallocations provoked by the inflationary expansions of the money supply to complete their course."*

of one good to that of another, in order to preserve the opportunity of being able without difficulty to satisfy urgent demands that may possibly arise in the future for goods that will have to be obtained by way of exchange" (Mises, 1981: 170).

As it can be easily understood, aside from the uncertainty regards the future, there are many factors influencing the amount of cash balances that the economic agents may choose to keep at any given time; furthermore, as stated by Prof. Murray Rothbard in a chapter on "Hoarding and the Keynesian System" of his 1970 book "Man, Economy and the State (Huerta de Soto, 2009: 295), there is nothing "anti-social" in keeping cash balances, contrary to Keynes' normative arguments. In the same chapter, Rothbard is clear in stating that any quantitative limits to cash balances are arbitrary and unjustified.

One of them is the amount of transactions that they usually do in the short time, and this amount is strongly correlated to their income, so it can be said that the size of cash balances is a function of income level.

Other is the extent that cash flows match for the aggregate of the economic agents. For instance, a society with a great percentage of formal employment tends to have a lower demand for money than a society in which the majority of the population is self-employed, say, in different seasonal economic activities.

The level of sophistication of financial instruments also plays a role in determining the demand for money; if the transaction costs to invest in income generating financial assets are relatively low, money can be transferred into financial investments and back in cash

more often, in shorter periods of time than otherwise, diminishing the necessity of holding cash in order to pay for the expected transactions in those periods[5].

The short-term interest rate is obviously one more key element that can be mentioned for the determination of the cash balances each economic agent would like to keep[6].

1.6 PROBLEMS ORIGINATED BY VARIATIONS IN THE SUPPLY AND DEMAND FOR MONEY

Related to the problem of fluctuations in the demand for money is the problem of variations in the supply of money and the changes in the purchasing power of the medium of exchange. Actually, most of the literature about the supply and demand for money deals with the changes in the supply of money and emphasizes that the relevant changes for the determination of the demand for money are the real changes and not the merely nominal changes provoked by an inflationary expansion of the medium of exchange.

It may be the case that when the institutional monetary framework is such that the supply of money is provided competitively, i.e., provided by different suppliers, the problems that may arise to accommodate the supply and demand for money are of a lesser magnitude than when the supply of money is monopolistically provided by the state, since under competitive money supply, the adjustments of supply and demand for money are operated by the aggregated preferences of the economic agents and not by the guessing of a central banker.

It is when the supply of money is provided by a state monopoly that serious problems may be expected to happen.

The most commonly identified problems are the ones that arise when a society with a given demand for money experiences an inflationary increase in the money supply. In this case of inflation of the money supply, a predictable consequence is a decrease of the purchasing power of the medium of exchange, others are the ones resulting from all sort of misallocations that the non-neutral characteristic of these variations in the money supply may cause.

As confirmed by the empirical evidence time and again, the economic crisis, the recessions and the depressions are nothing more than the more or less prolonged and severe period (according to the circumstances of each business cycle) of time required for the corrections of all the misallocations provoked by the inflationary expansions of the money supply to complete their course.

But periods of economic crisis are moments of increased uncertainty and, as mentioned above, uncertainty about the future is one of the key elements that may drive an increase in the demand for money.

[5] All the classical models for the demand of money compare the opportunity costs of the expected gains with interest bearing financial instruments, considered net of the transaction costs to move money to and from financial instruments.

[6] Incidentally, aware of the existence of many factors influencing the decisions about the cash balances that the individuals may choose to keep, illustrated by the ones mentioned above, it is hardly surprising that sometimes the demand for money may vary substantially in a short period of time.

1.7 WHAT IS THE PROPER RESPONSE TO AN ECONOMIC CRISIS?

If the government monopolistically controls the supply of money, what should be the government's "proper" response in case of a perceived increase in the demand for money in the middle of an economic crisis?

Is it proper for the government to increase (again) the money supply in order to match the increased demand?

Or is the proper response to *Fiat justitia ruat caelum*?[7].

If the government keeps the supply of money constant in face of an increased demand for money, or worse, allows its contraction, it will force asset liquidations beyond what may be understood as the misallocations that need to be corrected, producing even bigger economic devastation, human suffering and social unrest.

If the government supplies extra money to the extent that they estimate that is demanded, it will result in another plethora of bad things: a) it will generate an excess supply of money as soon as confidence is restored, unless the government "mops" further down the road the excess supplied (something to be skeptical about); b) given the non-neutral characteristic of money, it will result in other misallocations; and c) it may generate all sorts of privileges, moral hazards and increase in the size of the state sector, to name a few.

Having said all that, it is the contention presented in this chapter that under the institutional framework of fiat money, legal forced tender and central bank, the proper action for the government to take is to attend the increased demand for money with an increase in the money supply; being such course of action justified, by prudential reasons, as the lesser evil.

A traditional approach to this dilemma is framing this discussion as a choice between the alternatives of a lengthier or deeper recession; as said by Paul Cwik (2009: 8):

"It seems that economists and policy setters face a trade-off between the length of the recession and its depth".

The three courses of action open to the central bank are to expand the supply of money, to keep it constant or to allow it to contract. The expansion of the money supply is associated with the option of lengthening the recession in order to avoid a depression; and the options of maintaining constant the money supply or allowing its contraction are usually associated with accepting a deeper recession, what will bring a faster correction of the existing misallocations and therefore a faster recovery.

[7] *Fiat justitia ruat caelum* is a legal phrase in Latin that may be translated as "Do justice and let the sky fall." The maxim signifies the belief that justice must be realized regardless of consequences. It can have a positive and a negative connotation. In the case of judging the proper course of action for the monetary authorities to adopt in case of a higher demand for money due to an increase in the uncertainty in middle of an economic crisis, first it must be understood whether it is a case that admits only a principled response or a case that admits a prudential response. Perhaps in this case, like in any other case in which what is required is a moral choice, a definitive response may be an elusive goal. The best that can be hoped is for someone to state as clearly as possible the reasons for adopting one or other position; and the reasons for advocating a prudential response to this case are outlined at the concluding chapter of this paper.

With this paper that traditional approach is not disputed; just a new element for analysis is suggested, that is, changes in the demand for money. Let's suppose that the preference for holding cash balances has not changed significantly at the beginning of the recession, in that case, keeping the supply of money constant would match the existing demand for money. But what if most of the economic agents panicked and the desire to hold cash balances increased dramatically in a true "flight to liquidity"? In those circumstances, some forms of monetary instruments, quasi-money, which were part of the money supply because of their liberative power (liquidity), may lose their liquidity once the agents start a flight to "hard" money.

That is the case when investments in credit instruments, such as "securitized" credits, corporate bonds, mortgages and treasury bills, held in money market mutual funds and regarded as "*de facto*" money start to be traded or risk to be traded at a discount and money holders start to move their liquidity from MMMFs to bank deposits or cash. In such cases, if the GAMOE definition of money is accepted, should an increase in the monetary base that prevents a decrease in M2 by compensating the reduction in credit by an increase in bank credits with the central bank be considered an increase in the money supply or simply a policy to keep the money supply constant? As shown in the figure below, an increase in hard money, represented by the "True Money Supply", has had an increase of about 2,000 billion dollars since the current crisis started and the increase of monetary instruments in the American economy as measured by the concept of "Money of Zero Maturity" has increased about 1,250 billion dollars and, measured by the "M2"

> *"The three courses of action open to the central bank are to expand the supply of money, to keep it constant or to allow it to contract."*

concept, it has increased about 1,000 billion dollars, suggesting that, part of the increase in the monetary base just compensated the decrease in the perception that some credit instruments were part of the money supply[8] (Figure 1).

1.8 FINAL INTRODUCTORY REMARKS

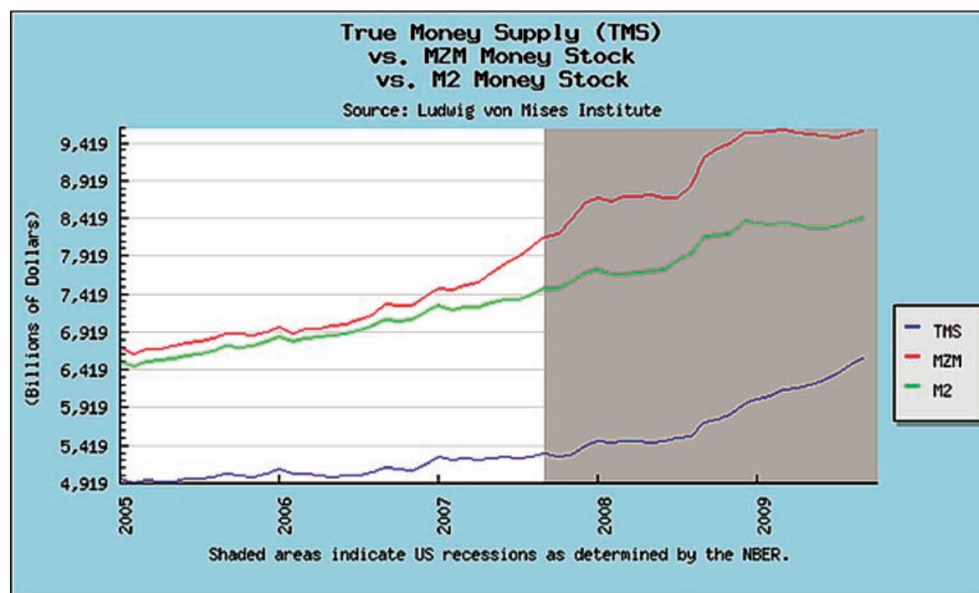
However, the course of action of expanding the monetary base by "quantitative easing" has terrible consequences, even if just to keep constant the money supply in the broad sense of GAMOE used in this essay, as mentioned above. Therefore, if under the current monetary arrangements in place almost everywhere in the world, the best thing that can be done is a terrible thing, a case may be made that the entire institutional edifice of a state controlled monopoly of the money supply is a flawed one and a new monetary constitution must be thought out[9].

"Neoclassical economists consider money, like any other good, as subject to the market forces, and therefore models to illustrate the supply and demand for money have been created since the moment that mathematical formulations were first used in economics."

[8] Note that in the case under discussion, if assets held in MMMFs are sold in order to repay investments in those funds that have their shares or units redeemed by the investors, that does not alter the immediate availability, or maturity of credit; the structure of credit remains the same, although the loss of monetary properties of those classes of assets may force the banks to apply to rediscount with the central bank and in the absence of that option, if the discount window is closed, to force liquidation, if there is an explicit or implicit warranty of the financial institutions that the investors in MMMFs have a "debt" claim against the banks and not an equity position. This essay is not the place to discuss about the adequacy of the policies followed by the FED during the recent financial crisis, but it must be kept in mind, in evaluating the course of action followed, the understanding that, if the investors in MMMFs come to have the perception that the principal of their investments would be at risk, the "flight to liquidity" would have been much greater than what it actually was, with catastrophic and unpredictable consequences for the entire financial system.

[9] Considering that virtually in every inhabited corner of this planet there is a national government claiming jurisdiction

Figure 1.



2. THE NEOCLASSICAL MODELS FOR THE DEMAND FOR MONEY

2.1 THE DEMAND FOR MONEY FUNCTION

Neoclassical economists consider money, like any other good, as subject to the market forces, and therefore models to illustrate the supply and demand for money have been created since the moment that mathematical formulations were first used in economics. As written by Professor David Ladler in his 1993 book "The Demand for Money":

"We study the demand for any item mainly so that we may make predictions about the consequences of changes in its supply. This statement is as true of money as of anything else, …" (Laidler, 1993: 3).

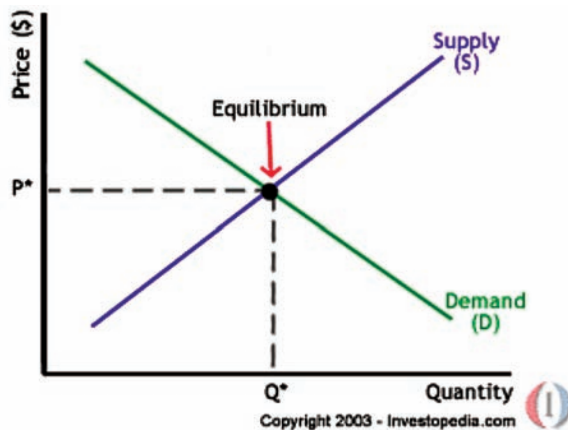
The supply and demand for money, therefore, may be expressed in the classical form of curves of supply and demand like with any other good[10] (Figure 2).

Cont. note 9

over the territory and that legal forced tender monetary regimes are equally universally adopted, any change in the monetary constitution anywhere will require a piece of legislation. Even if only to abolish the legal tender, or to define a new monetary standard or to eliminate banking regulations or to close the central bank, legislation will still be required. May any change in the current monetary arrangements be construed as being constructivist? Yes, obviously, it may be understood as constructivist, but such claim seems to be unwarranted. A constructivist solution for the current malaise does not result from proposing legislation but from proposing legislation with certain features such as proposing to "fine-tune" the system, introducing more banking controls, expanding the role of the central bank from lender of last resort to re-insurer of last resort, and etcetera.

10 It must be emphasized that the purpose of this chapter is not to present the classical theory of equilibrium, but only to comment some of the features of the demand for money function for neoclassical economics.

Figure 2.



According to Prof. Laidler, an analysis of supply and demand shows first that: - "*in face of a shift in the supply function, … at least one… of the variables on which demand depends must change*"; second, it shows that the extent of the changes (in those variables) depends on a relation between such variable(s) and the quantities demanded; and third, that the outcome of any shift in the supply, though "*heavily conditioned*" by the nature of the demand curve, is not determined exclusively by that.

These simple principles are particularly important in the case of money. As pointed out by Prof. Laidler, because the demand for money is strongly influenced by some variables such as interest rates, the level of national income and the price level, the government can influence systematically the demand for money through manipulating the quantity of the money supplied; and as also stressed by Prof. Laidler, in "*virtually all contemporary economies*", it is something under government control (1993: 6).

A most interesting aspect of Prof. Laidler exposition is a recognition that: - "*We must consider the possibility that all of the factors on which the demand for money depends will respond simultaneously to a change in its supply,..*" (1993: 7) and, therefore, accepting the necessity of a dynamic analysis in order to understand the consequences of a change in the supply of money.

There are many subjective factors implicit in the neoclassical analysis though, and Prof. Laidler explicitly states that "*Theories of the demand for money… are not logically incompatible with the notion that the demand for money in fact arises from its usefulness in making transactions or with the proposition that it is an excellent hedge against the risks inherent in holding assets*" and he concludes his overview on the demand for money stating that "*all theories of the demand for money rest on considerations having to do with uncertainty and the passage of time*" (1993: 45).

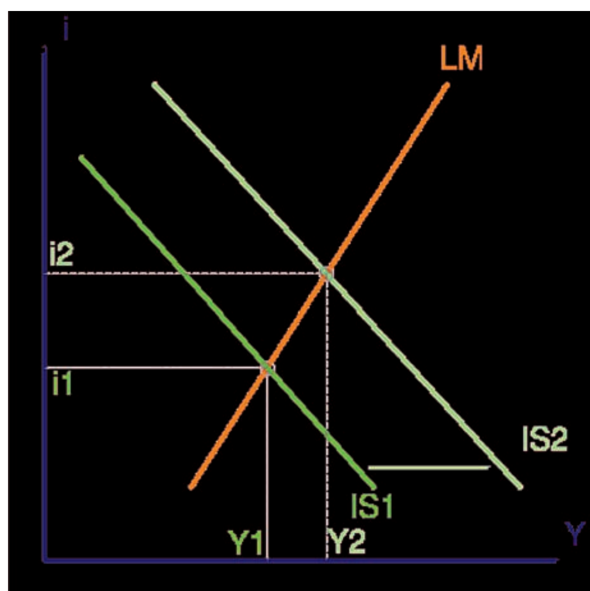
Having said that, the demand for money in the neoclassical paradigm is presented as a simple alternative between holding cash or bonds and, therefore, as a function of the rate of interest at any given income level.

2.2 THE IS LM MODEL

So, for any level of income (Y) and any rate of interest (i) it is possible to describe a preference for liquidity, i.e., a curve for the demand for money (LM) that will be in *equilibrium* with the level of savings and investments (IS) curve. According to the neoclassical economists, the IS- LM model can be understood as the special case of the supply and demand for money in which the demand for money is determined by the national income and the rate of interest. Since the rate of interest is

assumed to be possibly manipulated by the government by mean of changes in the money supply, the theoretical apparatus for the sort of interventions advocated by both monetarists and Keynesians on the two sides of the *neoclassical consensus* is the one provided for the neoclassical model of equilibrium as applied to the supply and demand for money.

Figure 3. The IS-LM model.



Author: Thomas Steiner

2.3 THE QUANTITATIVE THEORY OF MONEY

The quantitative theory of money must be understood simply as an application of the general theory of supply and demand for the case of money; after all, the existence of a ratio between money and all available goods, as the essence of the quantitative theory of money, is the same as with any other mutual exchange. Its main flaw, of course, is to assume that money is neutral

"The quantitative theory of money must be understood simply as an application of the general theory of supply and demand for the case of money; after all, the existence of a ratio between money and all available goods, as the essence of the quantitative theory of money, is the same as with any other mutual exchange."

“Violent changes in the preferences for cash balances will generate violent changes in prices and quantities traded plus or minus the variation in the money supply according to the established rule.”

and not to state that there is a causal relation between prices and the quantity of money as stated by Mises in his book “Human Action” (1949: 405).

This paper is not the right place to discuss the many methodological and conceptual differences between the neoclassical consensus and Austrian economics but the opposite; the purpose of this paper is to stress that from a shared understanding of the essential role of money in society (medium of exchange), of its main features (liquidity) and its *endogenous* determination of value, neoclassical and Austrian economists alike can accept that subjective evaluations about uncertainty and risk are key factors in determining the demand for money. Or can’t they?

3. IS ANY AMOUNT OF MONEY AS GOOD AS ANY OTHER?

3.1 WHAT DO AUSTRIAN ECONOMICS HAVE TO SAY ABOUT THE OPTIMUM AMOUNT OF MONEY?

Mises, when arguing that any amount of money is as good as any other and therefore it would be a waste of social resources to add to any existing quantity, wrote that:

“… the services which money renders can be neither improved nor repaired by changing the supply of money” (Mises, 1949: 421).

If any further evidence is required about what is supposed to be the view of Austrian economics on the optimum amount of money, Professors Barnett and Block may be quoted stating:

"It is pretty well established within Austrian Economics that the optimum quantity of money is whatever level is established at any given time" (Barnett II and Block, 2004: 39).

It must be emphasized that this statement admits a qualification; in the same article, Professors Barnett and Block assume that (it):

"… is obvious from Mises's (and Rothbard's) statements, both are referring to a commodity money" (2004: 43).

However, it seems to be implicit in a praxeological analysis about the demand for money, understood as the aggregation of the individual preferences for cash balances, that the "optimum" amount of money is a consequence of the aggregate of individual preferences. In the framework of competitively provided commodity money, these preferences may be accommodated by an increase or decrease respectively (i) in the supply of money, (ii) in the preference for cash balances or, (iii) by a change in the purchasing power of the commodity money. Quoting again Professors Barnett and Block:

"The optimum quantity of money is not, then, whatever quantity happens to exist, but rather whatever amount of gold as coins the free-market process creates" (2004: 48).

If this interpretation is correct, then, it may be accepted, from an Austrian Economics standpoint, that it is not any existing quantity of money in use by society at a given time that performs the services desired by the economic agents. Fluctuations in the supply and demand for money should accommodate the sum of personal preferences like the functions of demand and supply for any other good. And like what happens with any other good, these preferences may vary.

3.2 WHAT WOULD BE A FUNCTION OF THE DEMAND FOR MONEY FROM AN AUSTRIAN ECONOMICS PERSPECTIVE UNDER THE CURRENT MONETARY ARRANGEMENTS WITH FIAT MONEY?

As stated above, in principle, it does not seem that the postulate of "any amount of money is as good as any other" holds water in the specific case of commodity money. If the postulate that any amount of money that happens to be in use in society is the optimum amount of money were not even valid for commodity money, what would be a general "demand function for money" from an Austrian Economics perspective? As stated above, the aggregated of individual preferences will determine how the supply and demand for money will be accommodated regardless of the specific monetary regime enforced. For instance, if the supply of money obeys a *Friedmanesque* constant rule and the demand for money either increases or diminishes differently from the established rule, it seems to be consistent with a praxeologycal approach the conclusion that the accommodation will happen by changes in the prices and quantities of goods and services marketed. Violent changes in the preferences for cash balances will generate violent changes in prices and quantities traded plus or minus the variation in the money supply according to the established rule.

But if that is so, from an Austrian Economics perspective, what can be said about the demand for money under monetary arrangements of fiat money in which the cost creating money is

marginally insignificant and there is no constant rule for the money supply such as the one mentioned in the example above?

In the imperfect markets of the mixed-economy societies today, all sorts of rigidities and limitations are imposed to the free exchange of goods and services and needless to say, the labor market is by far one of the most regulated markets. Under the just mentioned circumstances, a case may be made that when society is in a downturn as part of a business cycle, the cost of making any adjustment of supply and demand of goods and services by deflation is relatively more expensive than allowing the adjustment to happen keeping the purchase power of the money constant. From the fact that adding fiat money to the money supply is relatively cheap results the hypothesis that keeping prices stable during a downturn is a relative less expensive solution. In face of an increase on the demand for money, it is undisputed that a non-flexible money supply will force the prices down. Why it is so painful, however, is a legitimate source of controversy. It may be well assumed that this phenomenon has psychological origin; after all, it is a common behavior already observed in different times and places. It may be ventured that the economic agents have a sense of entitlement to the relative value of their goods and skills and, generally speaking, are reluctant to be the first to accept a loss in what they perceive as the "current" price of their property. The fact is that the trend towards a lower price level in order to match an increased preference for money to a constant money supply is expected to produce a decrease in production since prices are not, due to the circumstances above mentioned, as elastic to the downside as they are to the upside. And, price stability in times of crisis can be achieved by increasing the supply of money in order to accommodate an increased demand for cash balances in the economy[11].

All the analysis presented so far seem to fit fairly as a description of the reality from the perspective first of the neoclassical economists and next, from the perspective of the Austrian economists. Now, it is time to deal with the normative side of this problem. Since any increase in the demand for cash balances in a regime of state monopoly of money must be supplied to the money holders by the central bank through the banking system, at the concluding chapter a normative position is adopted.

4. THE REASONS FOR ADVOCATING A PRUDENTIAL RESPONSE

4.1 A MATTER OF PRINCIPLES

Can the current (or any) economic crisis be considered an emergency case, such as an armed conflict? Is it a circumstance in which the fundamental principles of a Civil Society do not apply because civility was replaced by a state of war? Apparently not; therefore,

[11] Professor George Selgin in the introduction to Leland Yeager's "Fluttering Veil" argues that it is not only in a mixed economy that a downward rigidity in prices is to be found. He argues that it is a consequence of a "*network externality*" that: "*…each seller has an incentive to wait for others to go first in making desirable adjustments*" (Yeager, 1997: XVI).

the solution for an economic crisis must be consistent with the principles best suited to organize a society of human beings[12].

Has this current economic crisis changed the paradigm of a pluralistic society, based on private property rights, with a representative government limited by individual rights as the best society for human flourishing? The answer is also no, no new argument in favor of replacing a spontaneous order for an order of command was offered.

Nonetheless, the response to the current crisis worldwide has been more protectionism (so far mild), industrial subsidies, financial regulation, fiscal and monetary stimuli. Are they not against the principles of an open society and free markets? It seems to be beyond any doubt that commercial protectionism, subsidies and protection for non-competitive industries or political favorites and increased governmental expenditures are against the principles of limited government best suited for a society of free and responsible individuals and no aspect of the reality seems to justify departing from those principles.

"In the imperfect markets of the mixed-economy societies today, all sorts of rigidities and limitations are imposed to the free exchange of goods and services and needless to say, the labor market is by far one of the most regulated markets."

[12] According to the teachings of Doctors Douglas Den Uyl and Douglas Rasmussen, there are three views about principles, the empiricist, the constructivist and the naturalist. For an empiricist like Hume, principles are abstractions apprehended from reality by empirical observation, less complex than reality itself, and therefore, subject to qualifications. A constructivist is someone like Kant that understands reality as too chaotic to be understood, and so, it is the mind that provides principles and laws necessary to make sense of reality. For a constructivist, there is nothing in practice that may justify abandoning a principle. And finally, for the naturalist, like Aristotle, principles are not distortions of the reality, but generalizations of nature and, therefore, if the principles are rightfully apprehended, they are useful to guide our action when appearances seem to deceive us. In this paper a naturalistic understanding of principles is adopted.

"... given the lack of knowledge that the central bankers posses and the non-neutral character of money, it is impossible to know if an increase in the money supply is upholding investments that should be liquidated or avoiding unnecessary deflation."

But are the bailouts of banks and insurance companies by governmental loans financed by massive increases of the public debt or straightforward increase of the money supply in a narrow sense ("quantitative easing") also not regrettable? Yes, they are regrettable, but here, the answer may be nuanced. For good or evil, the law of the land in the US, for instance, has been one of a state monopoly of the money supply, legal forced tender, fractional reserve banking and central bank since 1913 when the System of Federal Reserve (Fed) was created[13].

Any decision by the central bank to close the discount window and to prevent the financial institutions to gain access to hard money, if they are able to offer as collateral well performing assets, in practice represents a contraction of the liquidity in the economy forcing a deflationary adjustment beyond the adjustment necessary in the structure of production in order to correct

[13] Obviously the monetary constitution of the US is not the same today as it was at the time of the founding. During the Civil War redemption in gold was suspended. The period between the late 1870's until the end of WWI was the time when the US had a gold standard with fractional reserve banking charted both by the federal and by the state governments. In 1913 with the establishment of the Fed, however, a major change, one may say a constitutional change, if not formally, at least *de facto* was introduced. At the end of WWI, under the new monetary regime, a first important change was introduced when the gold standard was replaced by a gold-exchange standard. A second relevant change to the monetary institutions of the US post 1913 was the adoption of a fixed parity adopted in 1944 with the Bretton Woods treaty. A third fundamental change was the denunciation of that treaty in 1972 and the adoption of a free floating currency. Important as these changes were, they did not change substantially the monetary constitution of the country; which has been in place for almost a century. If nothing else, these changes consubstantiate the trend towards fiat money completed in 1972.

the malinvestments done on the upturn of the business cycle. In a now famous article in 1937 talking about the great depression, Hayek argued that, "*a movement towards more liquid types of money causes an actual decrease in the total supply of money*" and under those circumstances, the proper thing for the central bank to do is to "*offset … as far as possible the effect of changes in the demand for liquid assets on the total quantity of the circulating medium*" (Miller, 2009: 32).

It seems that a case may be made that there is a difference between (a) not supporting the malinvestments done during the boom stage of the cycle with easy money and (b) don't allowing the supply of money to decrease, what, under fractional reserve and central bank arrangements, may imply increasing the amount of hard money in order to compensate the increased preference for liquidity. Such differentiation may be done because, contrary to what would have_happened under a regime of competitive supply of money, that is, an increased demand for money would be matched by an increased production of coins (see quote of Barnett and Block, 2004: 48); under a governmental monopoly of the money supply, only the government can at least try to act as the private suppliers would have done. That the government cannot mimic the spontaneous actions of economic agents in a free marketplace goes without saying, but that is part of the argument against the entire regime of fractional reserve bank and central banking and not an argument against trying to alleviate the bad consequences of the existing regime while it is still in force.

One last comment about that is: - given the lack of knowledge that the central bankers posses and the non-neutral character of money, it is impossible to know if an increase in the money supply is upholding investments that should be liquidated or avoiding unnecessary deflation; and that seems again an argument against the regime that leaves such an action as the least disastrous course of action to follow and not an argument against taking such a course, if the circumstances are the ones described.

4.2 WHAT TO DO IN THE CASE OF A "SECONDARY DEPRESSION"?

The discussion above resembles the one about "*secondary depression*" championed by Prof. Wilhelm Röpke and explained by Prof. Jesús Huerta de Soto as this:

"*Under certain conditions, government and union intervention, along with the institutional rigidity of the markets, may prevent the necessary readjustments which precede any recovery of economic activity. … Under these circumstances a cumulative process of contraction may be triggered*" (Huerta de Soto, 2006: 453).

The position of Austrian economists is clear on this regard, the measures to avoid a "secondary depression" are the ones required to eliminate the rigidities and inefficiencies in the economy, and not to produce further credit expansion. But as pointed out by Prof. Huerta de Soto, the intriguing and relevant question for our analysis is what to do if "*it appears politically 'impossible' to take the measures necessary…?*" (2006: 454).

In the same above quoted section Prof. Huerta de Soto reminds us that "*Hayek himself admitted that, under certain circumstances,*

a situation might become so desperate that politically the only remaining option would be to intervene again…"; what brings the issue of which "*type of monetary expansion would be the least disturbing from an economic standpoint?*" (2006: 455).

So, it is not alien to Austrian economists to accept that cases of "special circumstances" that may require nuanced responses can happen; and it is the intention with the final part of this paper to propose to frame this nuanced responses when they are required, in a principled way. The way proposed to identify what could be principled responses to special circumstances of emergencies is appealing to the virtue of *Prudence*.

4.3 THE VIRTUE OF PRUDENCE

Prudence nowadays is understood as equivalent to utility maximization; but in pre-modern times, it was not only one of the four cardinal virtues (along with justice, courage and temperance), but it was also considered the supreme virtue. The sense in which Prudence is utilized in this paper is its pre-modern one, or more precisely, according to the teachings of Aristotle, as an *intellectual* virtue. In Aristotle's words:

"*Prudence is that virtue of the understanding which enables men to come to wise decisions about the relation to happiness of the goods and evils that have been previously mentioned"* (Aristotle, 1366b19-22).

In a modern, "*Neo-Aristotelian*" definition:

"…Prudence is the intelligent management of the components needed for living a good human life. As we have argued, some of the components are given by nature, others by our environment, and still others are fashioned by the logic of our own choices" (Den Uyl, 1991: 267).

It is in the sense which self-perfection is the way to achieve a good life that *prudence,* with the meaning of *practical wisdom* adopted in this paper, may be understood as the most important of the cardinal virtues. And it is in this sense that an appeal for an "intelligent management" of the circumstances in order to restore, maintain and develop the best conditions possible for a good life may be understood as principle for action in the context of our discussion.

4.4 THE LENDER OF LAST RESORT

In a regime of state monopoly fiat money, central bank and fractional banking, the central bank has the obligation to act as lender of last resort for the financial system. This obligation is a legal obligation, but more than that, it is a logically necessary consequence of the existing structure of the financial system.

The majority of the economic profession has accepted that the current financial arrangements with fractional reserve banking system with a central bank with the legal mandate to act as a lender of last resort are the most efficient arrangement for money and banking possible.

Actually, as argued in Bagehot's "Lombard Street", that has been the predominant view in the profession since the Peel's Act of 1844 granted a monopoly of the money supply for the Bank of England in exchange for its role as lender of last resort, it became the

underpinning of the financial systems of the entire world, allowing the mobilization of financial resources in an unprecedented scale, fueling the progress of mankind. [14]

However, neither a resource to authority nor the number of supporters of one idea proves its validity; and the dissonant voices of Austrian Economists have incessantly pointed out the shortcomings of the current monetary arrangements adopted with variations globally.

But what needs to be made clear in relation to the monetary expansion post September 2007 promoted by the central banks in the US, Europe, Asia, and etcetera, is that it is an integral part of the financial systems as they are structured.

The different forms by which a central bank may provide liquidity for the financial system are not part of what has been discussed in this paper; and if most of lending is now done outside regular commercial banks, it is only to be expected that the central banks will provide liquidity for financial transactions outside the regular banking system as well. In the same way, it is not part of this paper's inquiry to analyze the correctness of the different actions taken by all central banks in general or the Fed in particular; however, the perception that privileges and moral hazards are a necessary consequence of the process must be weighted in any evaluation of the current system.

"Prudence nowadays is understood as equivalent to utility maximization; but in pre-modern times, it was not only one of the four cardinal virtues (along with justice, courage and temperance), but it was also considered the supreme virtue."

[14] It is disputable if Bagehot in his book was making an apology of central banking or on the contrary, if he was not actually calling attention to the real underpinning of British financial markets (trust) and the inherent fragility of the fractional reserve system in place.

CONCLUSIONS

So, a first conclusion that can be reached for this paper is that in providing liquidity for the financial systems, the central banks are honoring their legal and logical obligation of acting as lender of last resort for the financial system as they are currently organized.

Having money supply increased by the central bank in order to provide liquidity for financial institutions is no more an evil *per se* than any other essential feature of the current monetary constitution. It must be understood that it is not an optional feature of the system, but a defining component of it; and therefore, it cannot be evaluated apart from the rest of the monetary arrangements in place.

A second conclusion is that even if the increase in the money supply in order to provide liquidity for the financial system comes to be understood as something wrong by itself, a vision shared by many sensible persons, still it must be evaluated in the context of the entire financial edifice from which it is an essential feature.

And our final conclusion for this paper is that if the process of increasing the money supply in order to provide liquidity for the financial system is perceived as source of further misallocations, as source of inefficiencies, privileges and moral hazard, in sum, if it comes to be understood as an unpardonable flaw, it means a condemnation of the entire edifice. If it comes to be accepted that fractional banking cannot subsist without a lender of last resort and that this lender of last resort may not have other instrument to fund its operations other than the printing machine, it must be understood as a condemnation of fractional reserve banking and not of last resort lending.

POST SCRIPTUM

The current monetary constitutions in the US, in Europe and everywhere are not the ideal monetary arrangements for a free society. Nonetheless, they command enormous legitimacy, up to a point that, nowadays, it is not yet part of the circle of the commonly accepted discourse claims for the abolition of the forced course of the currency and the closing of the central bank; and the different national financial systems are part of the economic backbone that sustains the current level of division of labor and consequent production without which the life of billions would be compromised. Therefore, while the current monetary constitution remains in place, any decision by the central bank of not providing more liquidity for the banks, and consequently, forcing all the economic agents, in their increased demand for cash balances, to compete for a fixed supply of money would represent an additional effort of adaptation from society on top of the effort required to liquidate all the existing misallocations.

Depending on the severity of the crisis, it is difficult to exaggerate the dire consequences

for the well being of the economic agents of forcing down the prices in the market. The progress of socialist and totalitarian experiments represented by the New Deal, Fascism, and Nazism, plus, the WWII, the Holocaust, the subjugation of East Europe by Soviet Imperialism comes to mind as some of the dire consequences that happened last time that the central banks failed to live to their promises and left the financial systems worldwide to be almost completely destroyed, with the bankruptcies of thousands of financial institutions in the US alone. Any decision by the central bank of renouncing their obligations would conspire against the economic foundations of the different nations around the globe. At this time, it seems bloodily clear that the best course of action possible under the current arrangements is the lesser of two evils and not a clear-cut position. This must be understood as a definitive flaw of the current arrangements and a most powerful indictment of it, a most powerful claim for its revamping and the abolition of legal tender seems to be the right spot to start it. And all of this may be accepted as sufficient argument for a prudential evaluation about the best way to replace the current unsatisfactory arrangements regards money and banking.

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