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## *The Austrian Business Cycle Theory and the recent financial crisis*

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# THE AUSTRIAN BUSINESS CYCLE THEORY AND THE RECENT FINANCIAL CRISIS\*

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## ABSTRACT

The argument presented in this paper is based on the recognition that the Austrian Business Cycle Theory is outdated in its description of how the effects of monetary phenomena are transmitted to the real sector and produce business cycles. In the paper it is argued that there are epistemological limitations for successfully preventing inflationary credit expansions by the adoption of Inflation Targeting policies and that the adoption of such policies is the cause of the economic boom that ended in 2007. It is also described in the paper how monetary contraction happened, starting in September 2008; and that is offered as an explanation for the beginning of the downturn. Finally, it is argued in the paper that once started the downturn a prudential response by the monetary authorities, one that would mimic the reactions of the competing money suppliers in a free market would have been, is the proper course of action under the current monetary arrangements.

### KEY WORDS:

Austrian school of economics, economic cycle, financial crisis.

### JEL CLASSIFICATION:

B25, E44, E65.

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## RESUMEN

## LA TEORÍA AUSTRÍACA DEL CICLO ECONÓMICO Y LA RECIENTE CRISIS FINANCIERA

La argumentación de este artículo se basa en el reconocimiento de que la Teoría Austríaca del Ciclo Económico está desactualizada en su descripción de cómo los efectos del fenómeno monetario son transmitidos al sector real y generan ciclos de negocio.

En el artículo se sostiene que hay limitaciones epistemológicas para prevenir exitosamente las expansiones inflacionarias por la adopción de políticas específicas de inflación y que la adopción de dichas políticas es la causa del “boom” económico que terminó en 2007. También se describe cómo ocurrió la contracción monetaria empezando en septiembre de 2008 y que se ofrece como una explicación para el inicio del declive. Finalmente, una vez el declive inició hubo una respuesta prudente de las autoridades monetarias. Una respuesta que habría sido la imitación de las reacciones de los proveedores de dinero, competidores en un mercado libre y que sería el curso de acción apropiado bajo los actuales acuerdos monetarios.

**Palabras clave:** Escuela de Economía Austríaca, ciclo económico, crisis financiera.

**Clasificación JEL:** B25, E44, E65..

## RESUMO

## A TEORIA AUSTRÍACA DO CICLO ECONÔMICO E A RECENTE CRISE FINANCEIRA

O argumento apresentado neste documento baseia-se no reconhecimento de que a teoria austríaca do ciclo econômico não está atualizada na sua descrição de como os efeitos dos fenômenos monetários são transmitidos ao setor real e produz os ciclos econômicos.

No documento argumenta-se que existem limitações epistemológicas para o sucesso da prevenção da expansão inflacionária de crédito pela adoção de políticas de metas de inflação e que a adoção destas políticas é a causa do boom econômico que terminou em 2007. Também se descreve no documento como a contração monetária que aconteceu, a partir de setembro de 2008, e que se oferece como uma explicação para o começo da recessão. Finalmente, se argumenta no documento que uma vez que começou a crise uma resposta prudente das autoridades monetárias, haveria sido simular as reações dos provedores de fundos que competem em um mercado livre, é o curso de ação apropriado no regime monetário atual.

**Palavras-chave:** Escola de economia austríaca, ciclo econômico, crise financeira.

**Classificação JEL:** B25, E44, E65.

## RÉSUMÉ

LA THÉORIE AUTRICHIENNE DU CYCLE D'AFFAIRES ET DE LA RÉCENTE CRISE FINANCIÈRE

L'argument présenté dans ce document est basé sur la reconnaissance que la théorie autrichienne du cycle d'affaires est dépassé dans sa description de la façon dont les effets des phénomènes monétaires sont transmises au secteur réel et produisent des cycles économiques. Dans le document il est fait valoir qu'il ya des limites épistémologiques pour une prévention efficace de l'expansion de crédit inflationniste par l'adoption de politiques de cibles d'inflation et que l'adoption de que telles politiques sont la cause de l'essor économique qui a pris fin en 2007.

Il est également décrit dans le document comment contraction monétaire qui s'est passé, à partir de Septembre 2008 et qui est offert comme une explication pour le début de la récession. Enfin, il est soutenu dans le document qu'une fois que la récession a commencé une réponse prudentielle par les autorités monétaires, qui imiterait les réactions des fournisseurs de l'argent en concurrence dans un marché libre aurait été, c'est le bon déroulement de l'action sous les arrangements monétaires actuelles.

**Mots clés:** École autrichienne d'économie, le cycle économique, la crise financière.

**Classification JEL:** B25, E44, E65.

## 1 . INTRODUCTION

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The narrative of the Austrian Business Cycle Theory (ABCT for short) is well known. Departing from the assumptions that money is not neutral and financial flows are a mere mirror of what is happening in the real economy, the Austrian theorists argue that every time that there is an expansion of credit in the economy above the actual availability of saved resources, two things happen. First is the *Cantillon* effect, which refers to the fact that since some agents in the economy get the new money first, they spend it first, and therefore the burdens and benefits of inflationary credit expansion are uneven in the economy. Second, the availability of new money reduces the actual interest rate below its notional previous natural level, inducing the economic agents in general to engage in investments made viable due to a lesser cost of capital; they start to invest specially in more time-consuming, capital-intensive forms of production that will demand real resources above the actual available resources in the economy.

For some time, in the upturn of the cycle, the economy will experience over-consumption and over-investment, with the economic agents guided by distorted relative prices (cause and consequence of the way in which the

new money is introduced into the economy and of the misguided investments).

Eventually, claims on actual goods for consumption or investment reach a point in which the economic agents start to compete for insufficient available present goods. That is the moment in which the upturn side of the cycle crests. In order to have access to the scarce present goods available in the economy, economic agents involved in more roundabout forms of production start to bid for capital, that is, for the supposedly saved resources available to be invested in the production of future goods. In a monetary economy, the way in which the bidding is done is by demanding financial instruments representative of those supposedly saved real resources that would allow their possessors to have access to all available goods in the economy, that is, the generally accepted medium of exchange usually known as *money*.

At that moment, the time mismatch between savings and investments caused by the inflationary credit expansion, which created competing claims over the present goods, reveals itself.

In order to fulfill their obligations in the real sector of the economy, the economic agents in the financial sector, bankers among them, start to bid for money, raising the interest rate.

The new environment of lesser availability of credit and higher interest rates suddenly puts a number of misconceived investment projects into the red. The prospect of defaults looms and uncertainty increases dramatically.


That is the moment in which the downturn begins.

With increased uncertainty, there is an increased demand for cash balances. Now it is not only that the demand for money reflects the chase for available goods in the economy, but also that there is an increased demand by the economic agents to keep cash balances in order to face the uncertainty of the new environment in which economic conditions are deteriorating.


Forced liquidation of real assets in order to repay debts and to correct the distortions created in the structure of production caused by the inflationary credit expansion leaves room for some speculative investments, and eventually the relative prices will be realigned in a more realistic way, ill-conceived investments will be purged, and, depending on the actions taken in regard to the supply of money during the downturn, there will be more or less deflation. The Austrian theorists point out that the greater the deflation, the faster the liquidation of bad investments and the recovery; the trade-off of more or less deflation being a faster or more prolonged downturn.

How is one to fit that narrative into what has happened and is still happening in the present business cycle? The Liberty Fund E09-4635 Symposium on "Business Cycles and the New Economic Reality" came about from the realization that an effort to retool the Austrian Business Cycle Theory narrative was necessary. A good economic theory is one able to interpret and explain economic reality. If the Austrian Business Cycle Theory describes a reality of worldwide commodity money, no consumer credit, relatively insignificant public sector and public debt, and most financial activity being done through bank loans, it is not talking about the world today and, therefore, *prima facie*, it loses its relevance.

It may successfully be argued that the *a priori* assumptions of the theory, which are based on an accepted understanding about human nature and how individuals react to the physical and social environment in their economic activity, are as valid today as they were at the time the Austrian Business Cycle Theory was developed from the 1920s to the 1940s. Still, if these assumptions were not applied to the world in which we live today, that is, if a new narrative is not developed based on the same assumptions, the Austrian Business Cycle Theory may well be regarded as something from the past, since the traditional narrative of how the transmission and the effects of monetary changes is flawed when applied to today's market.



*“So, not all business cycles can be explained by the Austrian Business Cycle Theory. However, historical experience has shown that the «real» business cycles are a class of phenomena very limited in time and place, and most of the business cycles we know of are provoked by inflationary credit expansion even if the pain is compounded by other causes.”*



It is not the purpose here to develop a new narrative for the Austrian Business Cycle Theory. Actually, my personal conclusion from the E09-4635 symposium is that the day when someone who is able enough to rewrite the Austrian Business Cycle Theory engages in such project in a good “Austrian” tradition, the project should be limited to the aprioristic assumptions behind the narrative of the business cycles written from the 1920s to the 1940s.

That narrative should be considered just one of many possible narratives about how a business cycle might happen, and among those many other possible narratives that may be used to exemplify the theory is the one about the present business cycle. A different society with a different structure of production and with different institutions will have a different business cycle in the face of inflationary credit expansion.

That is to say that there are real business cycles, created by physical or social factors, such as the cycles provoked by the discovery and exhaustion of mineral resources in a given region, or a cycle of industrialization and deindustrialization caused by the change from favorable to unfavorable institutional arrangements such as labor laws or patent laws, for instance. The Austrian Business Cycle Theory is not about them. The Austrian Business Cycle Theory is about business cycles provoked by an increase of claims on present goods above the availability of such goods. Such inflationary expansion of credit is always the result of an increase in production by financial markets of credits above the existence of “real” savings.

So, not all business cycles can be explained by the Austrian Business Cycle Theory. However, historical experience has shown that the “real” business cycles are a class of phenomena very limited in time and place, and most of the business cycles we know of are provoked by inflationary credit expansion even if the pain is compounded by other causes.

No one can deny that the downturn of the 1930s, the Great Depression, was exacerbated by protectionism among many other terrible policy

mistakes. Still, the main causes for that prolonged upturn and sharp downturn were monetary.

I will argue here that the recent financial crisis is just the downturn side of a worldwide “Austrian” business cycle initiated in the late 1980s and early 1990s<sup>1</sup>. There are factors other than monetary ones helping to explain the present business cycle, but the primary causes explaining the cycle are monetary.

There are two monetary causes. The first one, which explains the upturn and is in fact the main monetary factor responsible for the crisis, was the widespread use of inflation-targeting

policies as the monetary policy of choice in the years before the crisis. Such policies allowed for the increase in the liquidity in the economy in ways not perceived by the price indexes used to gauge those policies. The second monetary phenomenon is the increase in the demand for money after the Lehman debacle at the end of 2008. Such an increase is offered as an interpretation for the ongoing contraction of inflationary liquidity that resulted in the crisis when most economic observers were focused on the expansion of the monetary base in the aftermath of the financial crisis that started in 2007. We will start with the effects of inflation targeting policies.

## 2. “INFLATION TARGETING” AND THE UPTURN OF THE PRESENT ECONOMIC CYCLE

Since 1990, the “state of the art” in monetary policy has been “Inflation Targeting”<sup>2</sup>. Inflation-targeting policies have been regarded as capable of keeping inflation low under fiat money and fluctuating exchange-rate arrangements while allowing the “flexibility” to manage monetary policy required to support politically the “independence” of central banks, namely easing credit as an attempt to promote stable growth with a minimum of unemployment.

However, inflation-targeting policies, understood as a strategy for monetary management

conducted more or less in a discretionary form aiming primarily at the achievement of a target for the variation of consumer’s prices, are neither “new”<sup>3</sup> nor effective in preventing the boom-and-bust cycles produced by loose (flexible, if you will) monetary management. Instead, these very policies are directly responsible for the current financial crisis by allowing gross speculation with investment assets not “perceived” by the general price indexes utilized to gauge those policies. Incidentally, that is one of the many epistemological arguments that may be raised against the use of inflation-targeting policies.

<sup>1</sup> Part of the arguments and evidence presented here were previously discussed: (a) in a working paper on the demand for money presented at the Austrian Scholars Conference 2010 at the Mises Institute in Auburn, Alabama and later published in the *Journal Criterio Libre*, year 8, #13, Bogotá (Colombia), edition Julio-Diciembre 2010; (b) in a working paper on inflation targeting presented at the III International Conference: Austrian Economics in the XXI Century, in Rosario, Argentina, and published by the *Journal RIIM* of Eseade, Argentina; and (c) in my dissertation on the philosophy of money for the Doctorate in Applied Economics at Universidad Rey Juan Carlos in Spain.

<sup>2</sup> Perhaps the most influential academic paper proposing an inflation target as the central criterion for monetary policy is John B. Taylor’s “Discretion Vs. Policy Rules in Practice” (Taylor, 1993). Its main credit, however, is that it endorsed what at that time became common practice among central banks. Bernanke *et al.* (2001), first published in 1999, is also widely quoted in academic discussions about inflation targeting for the collection of data supporting the claim for inflation target effectiveness.

<sup>3</sup> Proposals “for targeting monetary policy on a broad price index” were already deemed “old” by Professor Yeager in a 1983 paper (Yeager, 1983: p. 308), and rightly so, since, as this chapter argues, their root may be found in the monetary policy of the 1920s. Specifically, the similitude between the 1920s and the 1990s was already perceived, according to Professor Barry Eichengreen, who wrote that observers “... see parallels, in other words, between the ‘new economy’ of the 1990s and the ‘new age’ of the 1920s” (Eichengreen, 2002: p. 9).



In order to discuss these ideas, in the following pages we will deal with the concept of inflation-targeting policies, presenting a brief historical overview, their key elements, and how to classify them in accordance with the traditional modes of rules and discretion. Next, a review of the performance of monetary policies in selected developed countries serves as empirical evidence for some of the arguments presented here.

## 2.1 THE FORMULATION OF "INFLATION-TARGETING POLICIES

On August 15, 1971, the United States, under the watch of President Nixon, defaulted on the Bretton Woods Agreement and severed the tenuous link still existing between the United States dollar and gold by closing the "Gold Window" under which United States dollars were redeemable by Central Banks of signatory countries at the fixed rate of \$35.00 per ounce. A new short-lived parity was established, but in 1973 the fixed-exchange-rate monetary regime in force since the end of World War II came to an end. Central banks around the world scrambled for a new "anchor".

In a world left only with fluctuating fiat money, the only possible "anchor" to the value of a currency was a "nominal" one to be implemented at a national level.

## 2.2 PRECURSORS TO INFLATION TARGETING

At the beginning, the effort of central banks was to make known the evolution (growth) in the monetary aggregates, and with them, the "expected" changes in the general price levels as mechanically derived from the application of the Quantitative Theory of Money.

Pressures to make changes to the goals in terms of expansion of the money supply were felt soon. Real factors and political factors contributed from time to time to force central banks out of their stated goals for monetary expansion and therefore compromised their credibility. In sum, the claim for "discretion" was a constant.

It was only in 1990 when the New Zealand Central Bank adopted an explicit inflation target without reference to limits on monetary expansion but to a price level goal measured by a given price index, that the adoption of "inflation-targeting" policy in a narrow sense officially began, according to Bernanke *et al.* (2001: 86).

## 2.3 WHAT IS INFLATION TARGETING?

But, what is Inflation Targeting? In their book *Inflation Targeting - Lessons from the International Experience*, Dr. Bernanke and his co-authors offer the following definition: "Inflation targeting is a framework for monetary policy characterized by the public announcement of official quantitative targets (or target ranges) for the inflation rate over one or more time horizons, and by explicit acknowledgement that low, stable inflation is monetary policy's primary long-run goal" (2001: 4).

Since the 1930s most of the debate about monetary policies tries to classify them as strategies based on either "rules" or "discretion," the Gold Standard being, for instance, a "rule." A discretionary approach happens when a central bank makes no public commitment about its actions. Dr. Bernanke describes inflation targeting as a "framework" in order not to pin it as either a "rule" or as a "discretionary" kind of policy.

In other words, under the "framework" of an inflation target, the central bank is free to take any measure it sees fit, so far and so long as the price level at the end of a certain period of time comes close to the previously stated price level "goal" as measured by the chosen price index. Under the inflation target framework, the central bank claims to be able to pursue other political goals without falling into the discredited monetary "activism" of the bad old days before the "Great Moderation," as the period of discreet monetary management by the main central banks between the start of Paul Volcker's Chairmanship at the Fed and the beginning of the recent financial crises became known.



## 2.4 KEY ELEMENTS OF INFLATION-TARGETING POLICIES

One may summarize an inflation-targeting policy as composed of two key elements: a high level of discretion about the use of the tools available to the central bank, and a “formal” commitment to keep inflation low. The first component is perceived as required by the central bankers to show the “strength” of their institutions and, therefore, along with the second element, to convey the idea that the monetary authorities are committed to a low level of inflation and have the power to make it come about.

The advocates of inflation-targeting policies claim it is possible to create a “nominal anchor” to the price level by the communication to the public of a target which would result in certain “psychological” market conditions favorable to the achievement of the very same inflation goal (Bernanke *et al.*, 2001: 19). The public must believe that the Central Bank has the power to do one or all of the following: (a) to expand or contract the money supply, (b) to raise or to lower interest rates, (c) to impose exchange controls, (d) to alter the level of compulsory reserves, (e) to alter the classes of assets and the conditions under which they will grant access to discount facilities, and (f) to impose new bank regulations. Inflation targeting advocates believe that, if the market believes the Central Bank might take any of the above steps, along with their stated goal of keeping the inflation low, the “psychological” conditions will contribute to actually achieving the inflation goal. Bernanke could not be clearer about the psychological benefits expected from using everything available in the central bank “tool kit”: “Evidence suggests that the only way for central banks to earn credibility is the hard way: by demonstrating that they have the means and the will to reduce inflation and to keep it low for a period of time” (Bernanke *et al.*, 2001: 308). Furthermore, the element of discretion offers the central bank the capacity to pursue “other” political objectives deemed necessary by the circumstances without compromising the achievement of the stated goal so long as the “psychological” conditions remain under control.

“One may summarize an inflation-targeting policy as composed of two key elements: a high level of discretion about the use of the tools available to the central bank, and a «formal» commitment to keep inflation low.”

*“The historically low levels of inflation achieved under the inflation-targeting framework wherever it has been adopted, according to its proponents, seem to prove that it is the solution for price stability under fiat money and fluctuating exchange rates. The statistical record gives credit to that assessment, at least until the beginning of the current financial crisis.”*

## 2.5 RULES VS. DISCRETION

Proponents of inflation-targeting policies argue that history shows that “rules” are no protection against changes in monetary policy. Since changing circumstances “require” flexibility, even the Gold Standard offers no protection against political decisions to suspend payments in gold in case of war, for instance.

Therefore, so the argument goes, all monetary policies are “discretionary” to a certain degree, and so the best you can get is a “framework” such as the one provided by the adoption of a “nominal” anchor.

## 2.6 EPISTEMOLOGICAL PROBLEMS FOR INFLATION-TARGETING POLICIES

It may be said that these policies are not necessarily dependent on any knowledge of the actual quantity of money in circulation in the economy, since it is possible to practice those policies without knowledge of the variations in the supply and demand of money that are observed and acted upon. That leaves the most frequent objection to the idea of inflation targeting to be in relation to the time lags between the occurrence of imbalances and corrective actions<sup>4</sup>. That seems to me too benevolent an interpretation. Even if price indexes could perceive changes in the “general price level,” they cannot perceive them with the precision necessary for the meaningful practice of inflation-targeting policies based on them<sup>5</sup>. It is not only that the corrective actions can only be

<sup>4</sup> See Yeager, 1983: p. 309.

<sup>5</sup> In a recent paper on Morgenstern’s contributions, Professor Bagus lists a number of problems of limitation of knowledge that may influence the quality of the aggregated data produced as a price index. For instance, he mentions that some goods have more than one publicly quoted price, and that many goods and services have non-monetary components to their prices. He argues, “These non-monetary components of prices are, of course, relevant for an econometrician who wants to test the hypothesis that changes in the money supply have an influence on prices” (Bagus, 2010: p. 14).

taken when the effects of the disturbances have already occurred<sup>6</sup>, but also that it is not possible to know how the transmission of monetary changes into the real sector has occurred and, therefore, how it could be “corrected”. That is to say, there is a qualitative dimension that cannot be perceived by quantitative measurements, regardless of how precise they are meant to be. A final epistemological question in regard to the practice of inflation-targeting policies is that they may be regarded as having been developed precisely to address the limitations of knowledge afflicting policies targeting quantitative measurements of the money supply in vogue before the 1990s, and therefore a step in the right direction. Evidently inflation-targeting policies assume it is necessary to know much less than policies applying the quantitative theory of money to monetary aggregates; but, as it is argued here, they still assume more than is reasonable to assume to be known or even knowable at all<sup>7</sup>.

## 2.7 MONETARY POLICY SINCE 1990

Since the precursory adoption of an inflation-targeting policy in New Zealand, with different grades of formality and public commitment, the establishment of price level goals by the monetary authorities without any other commitment to how to achieve that goal has become the common practice around the globe.

## 2.8 TRACK RECORD OF INFLATION-TARGETING POLICIES

The historically low levels of inflation achieved under the inflation-targeting framework wherever it has been adopted, according to its proponents, seem to prove that it is the solution

for price stability under fiat money and fluctuating exchange rates. The statistical record gives credit to that assessment, at least until the beginning of the current financial crisis.

In order to analyze the validity of the proponents of inflation-targeting policies' claims, Table 1 shows the Consumer Price Indexes of nine selected developed countries with data from 1970 to 2007.

### 2.8.1 The Final Years under the Bretton Woods Treaty

Until February 1973, the international monetary arrangements were the ones established in 1944 by the Treaty of Bretton Woods with fixed exchange rates pegging all currencies of the signing countries to a United States dollar, until 1971, convertible (only by their correspondent central banks) in gold at a fixed parity of \$35.00 per ounce. However, the charter above shows that the average inflation level in the nine selected developed countries for the period 1970–1972 was well above five percent per year. Those arrangements were clearly unsustainable in the long run, being incompatible with a regime of fixed exchange rates. The weakened link to the Gold Standard provided by the Bretton Woods Treaty until August 1971 proved to be insufficient to check inflationary expansions of the money supply among the Western developed countries and the abandonment of those arrangements became inevitable.

### 2.8.2 In Search of a New “Anchor” for the Value of Monies

The American default on its obligation to redeem the United States dollar in gold under the Bretton

<sup>6</sup> Incidentally, the time lag may be considered as yet another epistemological objection to inflation targeting, since it is only after the monetary disturbances are perceived by the price index that monetary authorities will have the information that some corrective action is necessary.

<sup>7</sup> Professor Bagus emphasizes the fact that the exact knowledge assumed to exist in order to practice inflation-targeting policies is actually nonexistent when he states that error estimates are not provided in econometrics because “*there is not a precise way of calculating them*” (Bagus, 2010: p. 28).

Table 1. Consumer Price Indexes selected developed countries 1970-2007<sup>8</sup>: (percentage changes based on national price indexes published by each country)\*

Year	USA	Canada	Japan	France	Germany	Italy	Sweden	Swiss	UK
1970	5.9	3.3	7.6	5.9	3.4	5.0	7.0	3.6	6.4
1971	4.2	2.9	6.4	5.5	5.2	4.9	7.4	6.6	9.5
1972	3.3	4.9	4.8	6.2	5.5	5.7	6.0	6.7	7.1
1973	6.3	7.6	11.7	7.3	7.0	10.8	6.7	8.8	9.2
1974	11.0	10.9	23.2	13.7	7.0	19.1	9.9	9.8	16.0
1975	9.1	10.7	11.7	11.8	5.9	17.1	9.8	6.7	24.3
1976	5.8	7.6	9.4	9.6	4.3	16.7	10.3	1.7	16.7
1977	6.5	8.0	8.2	9.4	3.7	18.5	11.4	1.3	15.8
1978	7.6	9.0	4.2	9.0	2.7	12.0	10.0	1.1	8.6
1979	11.3	9.1	3.7	10.8	4.1	14.8	7.2	3.7	12.6
1980	13.5	10.2	7.8	13.0	5.5	21.3	13.7	4.0	16.9
1981	10.4	12.4	4.9	13.3	6.3	19.5	12.1	6.5	12.2
1982	4.0	10.7	2.8	12.0	5.3	16.5	8.6	5.7	8.5
1983	5.3	5.9	1.9	9.5	3.3	14.6	8.9	3.0	5.2
1984	4.4	4.4	2.3	7.7	2.4	10.9	8.0	2.9	4.5
1985	3.5	4.0	2.0	5.8	2.1	9.1	7.4	3.5	5.2
1986	1.9	4.2	0.6	2.5	-0.1	5.8	4.2	0.8	3.6
1987	3.7	4.4	0.1	3.3	0.2	4.8	4.2	1.4	4.1
1988	4.1	4.0	0.7	2.7	1.3	5.1	5.8	1.9	4.6
1989	4.8	5.0	2.3	3.5	2.8	6.3	6.4	3.1	5.9
1990	5.4	4.8	3.1	3.4	2.7	6.5	10.5	5.4	8.2
1991	4.2	5.6	3.3	3.2	3.5	6.3	9.3	5.9	6.8
1992	3.0	1.5	1.7	2.4	5.1	5.3	2.3	4.0	4.7
1993	3.0	1.8	1.2	2.1	4.5	4.6	4.7	3.3	3.0
1994	2.6	0.2	0.7	1.7	2.7	4.1	2.2	0.9	2.4
1995	2.8	2.2	-0.1	1.8	1.8	5.3	2.5	1.8	3.5
1996	3.0	1.5	0.1	2.0	1.4	4.0	0.5	0.8	2.4
1997	2.3	1.7	1.9	1.2	1.9	2.0	0.7	0.5	3.1
1998	1.6	1.0	0.6	0.7	1.0	2.0	-0.3	0.0	3.4
1999	2.2	1.8	-0.3	0.5	0.6	1.7	0.5	0.9	1.5
2000	3.3	2.7	-0.8	1.7	1.4	2.5	0.9	1.5	3.0
2001	2.8	2.5	-0.7	1.7	1.9	2.7	2.4	1.0	1.8
2002	1.6	2.2	-0.9	1.9	1.5	2.5	2.2	0.6	1.7
2003	2.3	2.8	-0.3	2.1	1.0	2.7	1.9	0.6	2.9
2004	2.7	1.8	0.0	2.1	1.7	2.2	0.4	0.8	3.0
2005	3.4	2.2	-0.3	1.8	1.5	2.0	0.5	1.1	2.8
2006	3.2	2.0	0.3	1.6	1.6	2.1	1.4	1.1	3.2
2007	2.8	2.2	0.0	1.5	2.3	1.8	2.2	0.7	4.3

\*The data has not been adjusted for comparability. National differences exist.

Sources: United States Bureau of Labor Statistics ([www.bls.gov/fls/flscplan.pdf](http://www.bls.gov/fls/flscplan.pdf)), International Monetary Fund, ([www.imf.org/external/pubs/ft/weo/2000/02/data/index.htm](http://www.imf.org/external/pubs/ft/weo/2000/02/data/index.htm)).

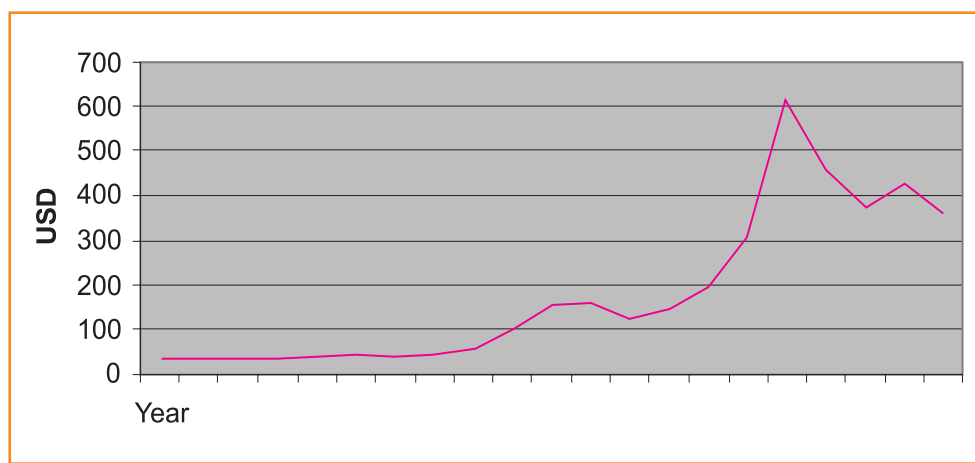
<sup>8</sup> The countries shown on the table were selected because they are representative of modern Western societies as a result of the size of their economies and their leadership in institutional developments. These percentage changes are based on national price indexes as published by each country.

Woods Treaty came as a shock to financial markets worldwide. The impacts were huge and long-lasting. From 1973 until 1983, we saw an increase in prices in the selected countries at the time that they were striving to find a new “anchor” for the value of their currencies. That was the period of failed attempts to control inflation, establishing targets for the growth of monetary aggregates. Figure 1 below shows the price of gold in United States dollars for the period 1964 to 1984. It shows that until 1968, world markets perceived that the promise by the American government to redeem United States dollars at the agreed parity of \$35.00 per ounce was credible. From 1968 to 1971, when the pledge was finally broken, the increases in the gold prices showed that the confidence in that promise had somewhat diminished. Under the Smithsonian Agreement of December 1971, an attempt to fix exchange rates at a devalued United States dollar without a link to actual gold faced skepticism, and in 1971 gold closed at the record price of \$44.20 per ounce. In February 1973, the Bretton Woods exchange market formally closed, reopening in March 1973 in a floating regime. From that year onwards, the increase of gold prices in United States dollars reflected more correctly the *devaluation* of the United States dollar in gold terms than an increase in the price of gold as a single commodity.


### 2.8.3 The Years of Recovering Credibility

1984 is the first of a number of years in which the data shows the results of more conservative policies adopted by monetary authorities in developed countries. The galloping inflation during the Carter Presidency led Mr. Paul Volker to the head of the Fed. Mr. Volker implemented a monetary policy of quantitative control of monetary aggregates that eventually curbed increases in consumer prices. Similar policies had been adopted in Europe since 1979 with the creation of the European Monetary System. But in order to impose an effective control on the growth of monetary aggregates, these policies resulted, as a byproduct, in a short but significant recession during the year 1980 with a double dip at the end of 1981, beginning of 1982. Although those policies proved successful, eventually new inflationary pressures came into the scenario. And regardless of how brief a recession is, it is something many political circles find intolerable, which is the reason why policymakers continue to listen to cries for more “discretionary” policies coming from political representatives of almost every persuasion aside from classical liberals, every time the economy in a country with a central bank enters a downturn.


Figure 1. Average price of gold for the period 1964 to 1984



Source: National Mining Association ([www.nma.org/pdf/gold/his\\_gold\\_prices.pdf](http://www.nma.org/pdf/gold/his_gold_prices.pdf))



*“In any society, the capacity to concede «credit» is limited, constrained by some actual factors and, in the long run, not influenced by the nominal quantity of money in circulation.”*



#### 2.8.4 New Inflationary Pressures and the adoption of Inflation-Targeting Policies

More conservative monetary policies became fashionable. However, three events of historical proportions may explain the increase in the general price levels until 1991. The first of them was Black Monday in October 1987 when the stock market in the United States plunged, and the recently appointed Fed Chairman, Mr. Alan Greenspan, took charge of the problem by flooding the market with dollars. The second one was the fall of the Berlin Wall in 1988 with the required effort made by developed countries to integrate the Eastern European countries into the new world order. The third one was the invasion of Kuwait and the first war in the Persian Gulf with the corresponding shock in the world oil supply.

No doubt the massive inflationary expansion determined by those events resulted in increases in the consumer price indexes in the selected countries. But they were counterweighted by the concomitant increases in productivity generated by the enlargement of the division of labor with: (a) the integration of China and the countries behind the Iron Curtain into the world markets, (b) liberalization of trade worldwide with the creation of the World Trade Organization (WTO), (c) the benefits in terms of lower barriers for the trade of goods, labor, services, and finances in an expanded Euro-zone with the final adoption of the Euro in 1999, and, last but not least, (d) advances in Information Technology.

A twenty-year period of prosperity had begun, that is, the upturn of the present business cycle. Foreign trade was the real motor behind the miracle, and economic expansion and increasing tax revenues lessened the political cost of adopting relatively more conservative fiscal policies in developed countries.

With a regained credibility in their management of fiscal and monetary policy, governments and

monetary authorities started to adopt, explicitly or tacitly, the inflation-targeting framework<sup>9</sup>.

The adoption of the inflation-target framework perfectly coincides with the beginning of the twenty-year expansion mentioned above. The inflation-target framework has been credited for the prosperity experienced until 2007. Claims have been made that it is the “perfect” balance between rules and discretion in monetary policy.

What remains to be assessed is to what extent the current crisis either proved that inflation-targeting policy is the best strategy possible for monetary policy, since it gives room for the monetary authorities to react to the crisis with every instrument at their disposal; or proved to be no more than a new dress for the recurrent mistake of credit expansion that in the end caused the crisis. Having being presented with what inflation targeting is and in which circumstances it became the monetary policy of choice worldwide, this paper will now address its responsibility for the recent crisis with the claim that those policies, in their disregard for changes in the money supply, so long as the changes in the price level as gauged by some price index of choice are close to the target, have allowed inflationary credit expansion, directly responsible for the boom that preceded the crises, as predicted by the Austrian Business Cycle Theory (ABCT).

### 2.8.5 Limits to the Capacity of Giving Credit

In any society, the capacity to concede “credit” is limited, constrained by some actual factors and, in the long run, not influenced by the nominal

quantity of money in circulation. Thinking about a hypothetical moneyless society may help explain this topic: the capacity of a society to allow some individuals to consume goods “on credit” is limited by its capacity to make those goods available. Its capacity to meet the demand for goods can be addressed in a number of different ways. First, a society can restrict the consumption by some of its members; second, a society can increase production, to the extent that the inputs are available or can also be bought by credit; and finally, a society can borrow those goods from other societies. Putting money back into the picture, we can see that giving “credit,” i.e., lending money to some individuals, may allow them to dispose of the available goods, but it cannot make more goods available in the long run.

But why this qualification about the “long run”? In open, capitalist, monetary societies, the price system serves the function of signaling the demand for some goods. However, the price system cannot differentiate existing money from “new” money for some time. Until the economic agents start to perceive the inflation of the medium of exchange and start acting accordingly, an increase of the supply of the medium of exchange will produce a dislocation of goods into the hands of the individuals that got the new money first from the hands of the issuer, and this dislocation may well result in increased production either domestically or abroad. But again, as soon as the economic agents take notice of what is going on, they will take the increased supply of fiat money into consideration and start acting accordingly; i.e., they will assume a certain constant rate of devaluation on the real, constant value expected for the currency. As soon as the inflationary

<sup>9</sup> The United States is one of those countries where, to this day, inflation targets are not formally adopted; nevertheless, American monetary policy is guided primarily with a focus on the inflation rate. In Mr. Alan Greenspan’s memoirs he defends keeping the Fed Funds rate unchanged in 1994; he argues that it was the first time since the 1960s that the inflation rate had been under a three percent rate per year for three consecutive years. About the monetary policy in 1996, in the seventh year of the most consistent bull market in record, he argues that the Fed “has no explicit mandate under the law to try to contain a stock market bubble” and that it was established that “price stability is central to long-term economic growth.” In December of that year, the famous concept of “irrational exuberance” was offered during a speech at the American Enterprise Institute’s annual dinner, yet there was no change to the inflationary easy credit policy since the consumer price indexes did not show any impact from that policy (Greenspan 2007: 178).



expectations are taken into account, the supply of goods will not increase because of increases in the money supply at the expected rate.

Furthermore, there is no way to assess what “short term” is, what the “proper” amount of money is to increase in order to have this or that increase in production as a result, and more importantly, it is impossible to know the unintended consequences of messing with the money supply, as historical examples attest. If the money holders in a particular society have all the money that they want to hold, the introduction of more of the “monetary merchandise” to the money stock will only depreciate the value of such merchandise. It is impossible to generate, enhance, or facilitate the production of more goods by adding money to the existing stock unless there is a demand for it<sup>10</sup>. Once the demand for liquidity is satisfied, the excess money added to the stock of money will only produce “devaluation” of the real value of the currency in face of the prices of the available goods, i.e., what is generally called “inflation”. At the time that the narrative of the Austrian Business Cycle Theory was developed, the generally accepted medium of exchange used to be redeemable for a real merchandise, like a piece

of specie, the introduction of money in circulation in excess of the demand for money would (a) domestically result in the concentration of bullion in the more conservative banks as a consequence of the operation of the “reflux mechanism”<sup>11</sup> and (b) internationally it would lead to the exportation of bullion, self-correcting the liquidity level to that desired by the money holders without increasing the amount of credit available in the long run.

Incidentally, it was already noted in nineteenth-century England that the operation of this external drain of specie would only work in order to keep neither the monetary system “neutral”, i.e., neither promoting nor reducing the business cycle under a hypothetical purely metallic currency as described by Hume in his essay “Of the Balance of Trade” (Hume, 1987: 308). Under the gold reserve system with a central bank of that time, its effects were not immediately perceived, as they took some time to happen, as Professor White mentions (1995: 115). Now, in our time of fiat money, increases in the money supply tend to lead straight, although not immediately and not in any direct correlation, to “debasement” of money value as a medium of exchange. That is what the gauge of inflation targets by price indexes

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<sup>10</sup> Every society has in any given moment a structure of production composed by the sum of buildings, equipments, inventories, and individuals engaged in productive activities. They operate in a given cycle of production, shorter for industrialized goods of consumption, longer for agricultural goods, perhaps even longer for capital goods. Every structure of production requires a certain liquidity expressed by a quantity of medium of exchange available in order to operate the economic transactions. This quantity of medium of exchange can be available because the economic agents themselves have enough capital to do their transactions or it can be made available through credit. But the fact is that, at any given moment, the economic agents require neither more nor less money than is necessary to make their transactions. This can be considered the “optimum” amount of money, and this optimum varies all the time with the variation of the circumstances. A necessity of increasing inventories or expanding productive capacity through the introduction of new technology or fixed assets may demand increases in the optimum amount of money; on the other hand, better management techniques and lean production process may liberate resources and imply a reduction of the money demanded by that society at that moment. This understanding is a generalization of the “Needs of Trade Doctrine” advocated by the members of the “Banking School” in the debates on monetary policy in the middle of the nineteenth century in Britain. Although their arguments were in favor of allowing the local banks to have some elasticity on the issuance of bank-notes in different regions of Great Britain at different times during the year in order to accommodate the “needs of trade” (White, 1995: 123), their arguments may be accepted as a general principle about money, given the “stiffness” of price and contracts, since in those circumstances the adjustment cannot be done as easily by price changes.

<sup>11</sup> The reflux mechanism operates under a gold reserve system in which bank notes are cleared among different and competing issuing banks, as in the case of Scotland during the second half of the nineteenth century. A more aggressive bank would have systematically negative balances at the daily clearing and would be forced to give reserves to the more conservative ones, inducing the aggressive bank to scale back and start to operate at the same level of exposure as the other banks. However, this mechanism is not a guarantee against a general expansion of the bank’s leverage, as pointed out by J.R. McCulloch and quoted by Professor Lawrence White (1995: 103).

fails to capture. You may have a “run” in certain classes of assets without perceptible changes in the Consumer Price Index (CPI), or even more broad indexes, since price indexes in general do not consider changes in asset prices.

Contrariwise, limiting the supply of money only to financing the necessities of trade as intended by the followers of the “Real Bills Doctrine” is to neglect that money performs a much broader role in society than fostering the commercial operations in the narrow sense meant by its proponents<sup>12</sup>.

<sup>12</sup> For the members of the Banking School, under the “Real Bills Doctrine” (RBD for short), banks should be allowed to issue banknotes in any quantity demanded by merchants presenting bills of exchange against other merchants. The main fallacies of this doctrine in regard to its sufficiency to control the supply of credit-money and therefore the price level, such as the “nominalist” fallacy and the “inelastic supply of bills” fallacy were well exposed by Professor White (1995: 122). The key issue in regard to the “Real Bills Doctrine” is that it may be understood as an effective guide to prudent commercial bank management, but nothing more than that may be expected from it. It is not a guide for the central bank policy, if there is a central bank in the system under consideration, and it is not sufficient to guarantee the stability of the supply of money and the price level. The doctrine was elaborated before the 1844 Peel’s Act, at a time that the gold standard in operation in England was without an institutionalized and monopolistic central bank. The control of the supply of money was not a result of the operation of the RBD, but of the operations of a gold standard without a central bank in which the external component of the economy was by and large kept automatically under control by the Humean mechanism. If you have a gold standard in operation, and no central bank to discount bills as a lender of last resort that you could rely on, the prudent management of a private bank giving credit only on short term and against self-liquidating good collateral and not engaging with short-term funding in long-term or risky financing such as industrial or agricultural lending seems reasonable. But the application of such a doctrine as a policy guide to the central bank even under a gold standard or, worse, under a fiat money institutional arrangement is a compounded mistake. It is to assume that the doctrine has an inbuilt mechanism to control the supply of money when it does not, and it is to assume that the doctrine was meant to guide public policy, which it is not. Trying to apply the doctrine outside the context in which it was developed for a purpose different from its original purpose is a compounded mistake. I would like to thank Professor Rolf Luders for clarifying this point to me.

*“Contrariwise, limiting the supply of money only to financing the necessities of trade as intended by the followers of the «Real Bills Doctrine» is to neglect that money performs a much broader role in society than fostering the commercial operations in the narrow sense meant by its proponents.”*

*“At the time that the Austrian Business Cycle Theory traditional narrative was written, the banking system was already arranged under fractional reserve rules, so there is no difference in the narrative here in concluding that the institution of fractional reserve banking is, in essence, a privilege granted to the bankers that allows them to have access to present goods and services that are saved by some economic agents in society for future and not immediate consumption.”*

### 2.8.6 Fractional Reserve Banking and Moral Hazards

From the previous paragraphs, one may conclude that the monetary flows of money to and from today's banking system of fractional reserve do not increase the capacity of the economic agents in a given society to concede more credit than the actual availability of goods not necessary for consumption would allow. Any attempt to artificially expand credit would end only reflecting in the monetary side of the economy the creation of concurrent claims over the available goods, producing changes in the general prices and changes in the relative prices of the different goods and services. But if that is the case, where do the incentives for bankers to expand credit under fractional reserve arrangements come from? They come from the commitment of the lender of last resort to rescue the banks anytime the bankers misjudge how much of the deposits on demand they must keep available, therefore creating a moral hazard that only encourages more reckless behavior, exacerbating the economic crisis (Huerta de Soto, 2006: 636).

At the time that the Austrian Business Cycle Theory traditional narrative was written, the banking system was already arranged under fractional reserve rules, so there is no difference in the narrative here in concluding that the institution of fractional reserve banking is, in essence, a privilege granted to the bankers that allows them to have access to present goods and services that are saved by some economic agents in society for future and not immediate consumption. That leads eventually to the cycles of boom and bust in the economy as described by the Austrian Business Cycle Theory with all the deleterious consequences associated with them.

In the years of plenty before the beginning of the recent financial crisis, inflation-targeting policies have allowed inflationary credit expansion, since its effects were not captured by the selected price indexes. Those policies failed to limit the creation of imbalances in the real sector of economic

activity and it is easy to understand how: they lack any mechanism to limit the expansion of money substitutes so long as increases in the level of consumer prices are close to what the authorities

judge tolerable. Under such policies new forms of inflationary credit expansion became possible, adding a new narrative to the ways in which an Austrian Business Cycle may occur.

## 3. THE EFFECTS OF THE INCREASE IN THE DEMAND FOR MONEY AFTER SEPTEMBER 2008

### 3.1 CHANGES IN THE DEMAND FOR MONEY

Fluctuations in the supply of money and credit may produce upturns and downturns in the economic activity, and the fluctuations under today's fractional banking arrangements, everything else being equal, are expected to be sharper than under arrangements with 100% reserves. But it is important to note that fractional banking is good 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 in which the money supply can increase with few constraints in the short run, but also moments in which it can decrease very dramatically<sup>13</sup>.

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 this essay will discuss particularly the one in which 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. 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 today's monetary arrangements, 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 in the central bank's decision about which course of action to follow.

But more than that, what this essay argues 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 which 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 deciding 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 regime.

<sup>13</sup> Obviously, it is not any quantity of base money that will be absorbed by the money-holders; it is not any quantity of credit money that could be generated by the banking system leveraging the available amount of base money without significant and considerably fast impact on the purchasing power of money. But, to the extent that the initial circumstances permit, substantial amounts of financial claims over and above the increase in real savings can be created under the current monetary arrangements almost everywhere until it starts to compromise the purchasing power of money and the credibility of the banking system.

### 3.2 THE DEMAND FOR MONEY

There is a difference between the amount of money that each individual uses during 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.

### 3.3 THE SUPPLY OF MONEY

The *supply of money*, on the other hand, may be supplied competitively or by a monopoly<sup>14</sup>. 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 a monopoly of the money supply when such legal provision is in force.

### 3.4 MONEY IS LIKE ANY OTHER ECONOMIC GOOD

All economic goods may be classified into three categories: i) capital goods, ii) consumer goods, and iii) media of exchange. Since the utility of media of exchange is a consequence of their instrumentality for the acquisition of other goods, some authors classify them as capital goods. Whether or not the medium of exchange is a capital good is not a relevant issue for the topic

discussed in this paper<sup>15</sup>. 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 that command the behavior of individuals in relation to those goods.

### 3.5 MONEY IS A GENERALLY ACCEPTED MEDIUM OF EXCHANGE

The definition of money adopted in this essay is the GAMOE definition of money: that money is the Generally Accepted Medium of Exchange<sup>16</sup>.

This paper contends that the Generally Accepted Medium of Exchange in society is subject to the laws of supply and demand in a similar fashion to 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<sup>17</sup>.

So, until now, it was said that like any other economic good, money is subject to the laws of supply and demand; money is an economic good that derives its utility from its use as a medium of exchange; the aggregated amount of money that each economic agent chooses to keep as cash balance is the demand for money; and that the supply of money may be institutionally framed

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<sup>14</sup> For the purposes of this work, when a monopoly of the money supply is referred to, a monopoly created by law is what is meant and not a natural monopoly in the supply of money that may arise spontaneously under a competitive framework.

<sup>15</sup> For a discussion on money as a capital good, see Barnett and Block (2005).

<sup>16</sup> 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 economic transactions and therefore to allow and enhance the division of labor by diminishing the transaction costs of bartering. It is important to note, in accepting the GAMOE definition of money that the other two main functions of money –i.e., its capacity to be used as a unit of account and as a store of value—are derived from its central attribute.

<sup>17</sup> 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 even to a degree of becoming “money,” while a fiat currency may totally lose 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).

to be provided competitively by the market or monopolistically by the state.

### 3.6 WHY KEEP A CASH BALANCE?

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

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. After all, money is needed in order to ease the daily transactions of the economic agents, and even if they knew the future “with certainty,” the inflows and outflows of cash of each family and business are uneven. Also, one must not forget that there are higher transaction costs in buying and selling any other form of wealth.

Exaggeration though it is, the link between uncertainty about the future and the decision of keeping cash balances is crucial to understanding 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 of one good to that of another, in order to preserve the opportunity of being able without difficulty to satisfy urgent*

*“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.”*



*“As confirmed by empirical evidence time and again, granting some room for «real» causes for business cycles as mentioned in the introduction, the economic crisis, recessions, and 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 complete their course.”*

*demands that may possibly arise in the future for goods that will have to be obtained by way of exchange” (Mises, 1980: 170).*

As can be easily understood, aside from the uncertainty regarding the future, there are many factors influencing the amount of cash balances that the economic agents may choose to keep at any given time.

The level of sophistication of financial instruments, for instance, 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 into cash more often, in shorter periods of time than otherwise, diminishing the necessity of holding cash in order to pay for expected transactions during those periods<sup>18</sup>.

The short-term interest rate is obviously one more key element to consider when determining how much cash balance each economic agent would like to keep.

### 3.7 PROBLEMS STEMMING FROM VARIATIONS IN THE SUPPLY AND DEMAND FOR MONEY

It may be the case that when the institutional monetary framework is such that the supply of money is provided competitively, 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 the adjustments of supply and demand for money are operated by the interaction of the preferences of economic agents, each one with his or her own marginal utility, and not by the guessing of a central banker.

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<sup>18</sup> 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.



When the supply of money is provided by a state monopoly a common problem is an inflationary increase in the money supply. In this case, a predictable consequence is a decrease of the purchasing power of the medium of exchange. Other consequences result from all sorts of misallocations that the non-neutral characteristic of these variations in the money supply may cause.

As confirmed by empirical evidence time and again, granting some room for “real” causes for business cycles as mentioned in the introduction, the economic crisis, recessions, and 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 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.

### 3.8 HOW THE DEMAND FOR MONEY CHANGED DURING THE RECENT FINANCIAL CRISIS

Since the definition of money adopted in this work is the GAMOE definition, the use here of the concept of “money supply” must be understood not only as variations in the monetary base, but variations in the monetary aggregates as well.

For instance, prior to the financial crisis that started in 2007, certain credit instruments such as Mortgage Backed Securities issued by Government Sponsored Entities (GSE –quasi-governmental Federal agencies with the implicit support of the United States Treasury), such as the mortgage securitization giants FANNIE MAE and FREDDIE MAC, were deemed by the agents in the international capital market to be as liquid as the invested assets of money market mutual funds. Money market funds being a form of investment with next day availability (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. At the peak of the financial crisis, however, these mortgage-backed securities lost their former level of credibility, and risked being traded at a discount. If that had been allowed to happen, with the loss of their liquidity, they would have ceased to be perceived as possessing quasi-monetary attributes, and the trillions of United States dollars invested in those assets in a matter of days at the end of 2008 would have ceased, for all practical purposes, to be considered by the economic agents as quasi-money, as they had before. That was the rationale behind the movement of trillions of United States dollars in a matter of hours away from money market funds (MMFs) in the direction of checking accounts. It also explains some of the desperate measures undertaken by the American monetary authorities at that time, such as the takeover of those entities by the American Treasury, making explicit what before was just an implicit warranty. An example of the relevance of the “monetization” of mortgage-backed securities by the Government Sponsored Entities is the statement of a typical American money market fund one year later.

At the end of the 2009 fiscal year, the money market fund TIAA-CREFF (ticker: TIRXX) had 39.6% of its assets in securities issued by them. Recent data released by the Fed and quoted in the *Wall Street Journal* article “Absent Help, More Funds Might Have Broken Buck” by Ben Levisohn and Daisy Maxey on December 1, 2010 shows that nine out of the ten largest money market fund companies in the United States at the time of the crisis, managers of two-thirds of the total assets invested in money market funds at that moment, used a first-aid program from the Fed called the “Asset-Backed Commercial Paper Money-Market Mutual Fund Liquidity Facility.” Under that program, the funds sold securities to commercial banks in order to solve their liquidity programs, and the banks used funds from the Fed to make such purchases. That is more evidence of the amount of “de-monetization” that happened in financial markets at the end

of 2008 following the panic provoked by the collapse of Lehman Brothers.

### 3.9 WHAT IS THE PROPER RESPONSE TO AN ECONOMIC CRISIS?

If the government monopolistically controls the supply of money, what should the government's "proper" response be 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, *Fiat justitia ruat caelum*?<sup>19</sup>.

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 meet its estimations of demand, it will result in a plethora of other bad things: a) it will generate an excess supply of money as soon as confidence is restored, unless the government "mops up" 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 increases in the size of the state sector, to name a few.

Having said all that, it is the argument presented here that under today's institutional framework of fiat money, legal forced tender, and central bank, the proper action for the government to take is to attend to the increased demand for money with an increase in the money supply, such a course of action being justified, by prudential reasons given below, as the lesser evil.

A traditional approach among Austrian economists<sup>20</sup> to this dilemma is the one of framing this discussion as a choice between the alternatives of a lengthier or deeper recession. Paul Cwik (2009: 8) writes, "*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 the money supply constant or allowing its contraction are usually associated with accepting a deeper recession, hoping that such a sharp downturn will bring a faster correction of the existing misallocations and therefore a faster recovery.

That traditional approach is not disputed with this essay, but here I suggest a new element for analysis: that is, changes in the demand for money. Let us 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

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<sup>19</sup> *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 a prudential response.

<sup>20</sup> Professor Rothbard in *Man, the State and the Economy* describes the "liquidationist" point of view against the prudential response suggested above: "*It may well be true that the deflationary process will overshoot the free-market equilibrium point and raise price differentials and the interest rate above it. But if so, no harm will be done, since a credit contraction can create no malinvestments and therefore does not generate another boom-bust cycle*" (Rothbard, 2009: p. 1006). As it is argued in this chapter, there are other harms to be considered aside from the generation of another cycle.

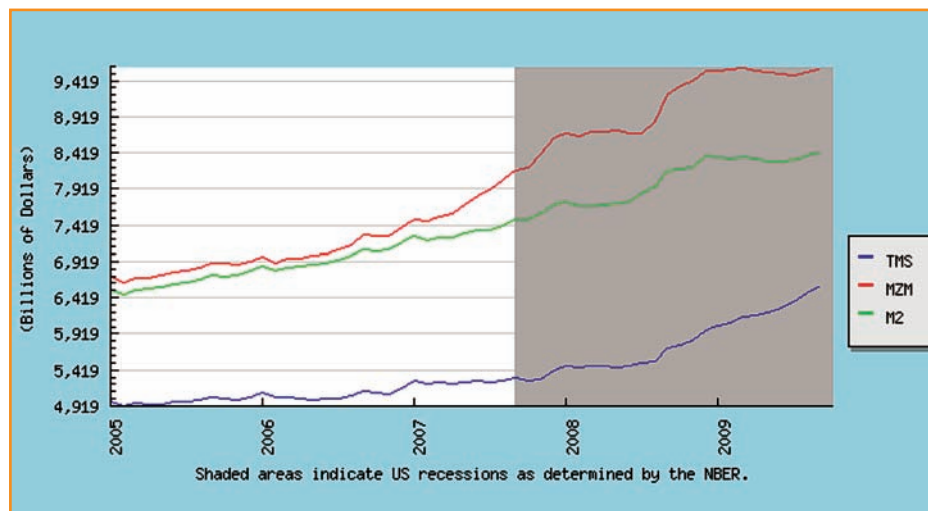
most of the economic agents have panicked, and the desire to hold cash balances has increased dramatically in a true “flight to liquidity”? In those circumstances, some forms of monetary instruments, quasi-money, which were part of the money supply because of their liberative power (liquidity), may have lost their liquidity once the agents started 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 being traded at a discount when money holders start to move their liquidity from money market mutual funds to bank deposits or cash. In such cases, according to the GAMOE definition of money, 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 should it be considered 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” had an increase of about Two trillion dollars during the recent crisis. The increase of monetary instruments in the American economy as measured by the concept of “Money of Zero Maturity” had an increase of about 1.25 trillion dollars, and measured by the “M2”<sup>21</sup> concept it increased about One trillion billion dollars. These numbers suggest 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<sup>22</sup>.

<sup>21</sup> M2 is the concept of money supply that aggregates the currency, deposits on demand, overnight investments, money market mutual funds and saving accounts.

<sup>22</sup> Note that in the case under discussion, if assets held in money market mutual funds are sold in order to repay investments in those funds that have their shares or units redeemed by the investors, it will not alter the immediate availability, or maturity of credit. The structure of credit remains the same. The loss of monetary properties of those classes of assets may force the banks to apply to re-discount with the central bank and, in the absence of that option, if the discount window is closed, may result

*“Having said all that, it is the argument presented here that under today’s institutional framework of fiat money, legal forced tender, and central bank, the proper action for the government to take is to attend to the increased demand for money with an increase in the money supply, such a course of action being justified, by prudential reasons given below, as the lesser evil.”*

Figure 2. True Money Supply (TMS) vs. MZM Money Stock vs. M2 Money Stock



Source: Ludwig von Mises Institute.

### 3.10 FINAL REMARKS ABOUT THE CHANGES IN DEMAND FOR MONEY

The course of action of expanding the monetary base by “quantitative easing” has terrible consequences as mentioned above, even if it is just to keep the money supply constant in the broad sense of GAMOE used here. 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.

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. Professors Barnett and Block say, “*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, but fluctuations in the supply and demand for money should accommodate the sum of personal preferences like the functions of demand and

Cont. nota 22

in a forced liquidation of those assets. Those will be the alternatives every time that there is an explicit or implicit warranty of the financial institutions that the investors in money market mutual funds have a “debt” claim against the banks and not an equity position. This work is not the place to discuss the policies followed by the Fed during the recent financial crisis, but in evaluation the course of action followed, one must keep in mind the understanding that if the investors in money market mutual funds had had the perception that the principal of their investments had been 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).

supply for any other good. And as with any other good, these preferences may vary, resulting in short-term disequilibrium.

### 3.11 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 aggregate of individual preferences will intersubjectively determine how the supply and demand for money will be accommodated regardless of the specific monetary regime enforced. 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 of 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 on the free exchange of goods and services and, needless to say, the labor market is one of the most regulated markets by far. 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 purchasing power of the money constant. Keeping prices stable during a downturn is a relatively less expensive solution, and it is a hypothesis that results from the fact that adding fiat money to the money supply is relatively cheap. That, in the face of an increase in the demand for money, a non-flexible money supply will force the prices down is indisputable. Why it is so painful, however, is a legitimate source of controversy. That this phenomenon has a psychological origin may well be assumed; after all, it is a common behavior 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, individually, that is not in their interest. Professor Yeager, argues:

*“Elements of price and wage stickiness, though utterly rational from the individual points of view of the decisions-makers involved, do keep downward price and wage adjustments from absorbing the full impact of the reduced willingness to spend associated with efforts to build or maintain cash balances”* (Yeager, 1983: p. 306).

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 mentioned above, as elastic to the downside as they are to the upside. 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<sup>23</sup>.

<sup>23</sup> 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).

All the analysis presented so far seems to fit fairly as a description of reality from the perspective of Austrian economics. 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, a normative position is adopted in the next section of this paper.

## 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?<sup>24</sup> Do circumstances in which the principles under which civil society are based on not apply because civility was replaced by a state of war?<sup>25</sup> Apparently not; therefore, the solution for an economic crisis must be consistent with the principles best-suited to organizing a society of human beings.

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,

and 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 reality seems to justify departing from those principles.

But are the bailouts of banks and insurance companies by governmental loans financed by massive increases of the public debt or straightforward increases 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 United States, 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<sup>26</sup>.

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<sup>24</sup> In order to evaluate to what extent a financial crisis may or may not justify extraordinary measures, it seems relevant here to keep in mind Ayn Rand’s definition of emergency:

*“An emergency is an unchosen, unexpected event, limited in time that creates condition under which human survival is impossible.... In an emergency situation, men’s primary goal is to combat the disaster, escape the danger and restore normal conditions.... By ‘normal’ conditions I mean metaphysically normal, normal in the nature of things, and appropriate to human existence.... By its nature, an emergency situation is temporary... the principle that one should help men in an emergency cannot be extended to regard all human suffering as an emergency and to turn the misfortune of some into a first mortgage on the lives of others”* (Rand, 1963: p. 55).

<sup>25</sup> Professor Robert Higgs describes in chapter eight, “The Great Depression: ‘An Emergency More Serious than War’,” the ways in which an artificial crisis was created by President Franklin Delano Roosevelt soon after his inauguration in March 1933 (claiming dubious powers given by the “Trading with the Enemy Act of 1917”) by proclaiming a banking holiday (Higgs, 1987: p. 170). Abuses such as that and others carried on by Roosevelt under the “New Deal” such as the seizure of gold and the devaluation of the gold content of the United States dollar were largely avoided during the recent financial crisis.

<sup>26</sup> Obviously the monetary constitution of the United States is not the same today as it was at the time of the founding. In 1913 with the establishment of the Fed, a major change, one may say a constitutional change (if not formally, at least de facto) was introduced. At the end of World War I, under the new monetary regime, a first important change was introduced when



Any decision by the central bank to close the discount window and to prevent the financial institutions from gaining access to hard money, even surrendering as guarantee well-performing assets that they may have, would in practice represent 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 the malinvestments done in the upturn of the business cycle. In a now-famous article, Hayek talking in 1937 about the Great Depression 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)<sup>27</sup>.

It seems that a case may be made that there is a difference between not supporting the malinvestments made during the boom stage of the cycle with easy money and not allowing the supply of money to decrease, which, under fractional reserve and central bank arrangements, may imply increasing the amount of hard money in order to compensate for the increased preference for liquidity. Contrary to what would

*“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 reality seems to justify departing from those principles.”*

Cont. note 26

the gold standard was replaced by a gold-exchange standard. A second relevant change to the monetary institutions of the United States 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 current monetary constitution of the country introduced in 1913, which has been in place for almost a century. If nothing else, these three changes consubstantiate the trend towards fiat money completed in 1972.

<sup>27</sup> Specifically about the desirability of deflation, Hayek was quoted in a recent article by Larry White (2008: p. 27) as saying that “I would no longer maintain, as I did in the early ‘30s, ... a short period of deflation may be desirable. Today I believe that deflation has no recognizable function whatever, and that there is no justification for supporting or permitting a process of deflation” (Hayek, 1975: p. 5).



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

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 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.

If, given the lack of knowledge that the central bankers possess 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, it seems again an argument against the regime that leaves such an action as the least disastrous course to follow and not an argument against taking such a course, if the circumstances are as described.

Professor Huerta de Soto (2006: 455) 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...”; which brings us to the issue of which “type of monetary expansion would be the least disturbing from an economic standpoint?”

So, it is not alien to Austrian economists to accept that cases of “special circumstances” that may require nuanced responses can happen, and in the remaining pages a nuanced response to increased demand for liquidity observed more acutely after September 2008 is framed. The way proposed to identify what could be a principled response to the special circumstances of that emergency is appealing to the virtue of prudence. At a time that most observers were commenting about the increase in the money supply, the fact that such an increase was not enough to compensate for the

increase in the demand for liquidity passed almost unobserved. Such lack of perception about the relevance of the “flight to liquidity” in terms of an increase in the demand for money, as argued in the introduction of this paper, may be considered one of the two main monetary phenomena explaining the current financial crisis.

## 4.2 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, 1941: 1366b 19-22).

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 in 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.

## 4.3 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. As stated by Professor Huerta de Soto, “*The very existence of a fractional-reserve banking system invariably leads to the emergence of a central bank as a lender of last resort*” (Huerta de Soto, 2006: p. 638).

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

Actually, as argued in Bagehot’s “Lombard Street,” that has been the predominant view in the profession since 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<sup>28</sup>.

However, neither recourse 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-2007 promoted by the central banks in the United States, Europe, Asia,

<sup>28</sup> It is disputable whether Bagehot in his book was making an apology for central banking or, on the contrary, was actually calling attention to the real underpinning of British financial markets (trust) and the inherent fragility of the fractional reserve system in place.

etc., is that it is an integral part of the financial systems as they are currently structured.

The specifics of 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. For the purposes of describing the relations between monetary changes and the different stages of the business cycle, suffice it to say that 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 the inquiry conducted in this paper 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.

#### 4.4 CONCLUSIONS ABOUT THE ACTIONS OF THE CENTRAL BANKS IN THE AFTERMATH OF THE FINANCIAL CRISIS

A first conclusion that can be reached is that in providing liquidity for the financial system, even if that was done outside the traditional lines of rediscount for commercial banks, the central banks in general and the Fed in particular are honoring their legal and logical obligation of acting as lender of last resort for the financial system as they are currently organized.

Having the money supply<sup>29</sup> 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 *per se*, a vision shared by many sensible persons, still it must be evaluated in the context of the entire financial system of which it is an essential feature.

A third conclusion is that if the process of increasing the money supply in order to provide liquidity for the financial system is understood, as the Austrian Business Cycle Theory does, as a source of further misallocations, as a 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 another 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.

#### 4.5 FINAL COMMENTS

The current monetary constitutions in the United States, Europe, and everywhere are not the ideal monetary arrangements for a free society. Nonetheless, they command enormous legitimacy, so that claims for the abolition of the forced course of the currency and the closing of the central bank are not yet part of the circle of the commonly accepted discourse. 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

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<sup>29</sup> Most of the monetary expansion done in the immediate aftermath of the Lehman debacle was done by crediting the deposit accounts of financial institutions with the central bank; those deposit accounts are part of the monetary base and therefore of the money supply.

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<sup>30</sup>.

The progress of socialist and totalitarian experiments represented by the New Deal, Fascism, and Nazism, plus, World War II, the Holocaust, and the subjugation of East Europe by Soviet Imperialism come to mind as some of the dire consequences that happened last time that the central banks failed to live up to their promises and left the financial systems worldwide to be almost completely destroyed, with the resulting bankruptcies of thousands of financial institutions in the United States alone. Any decision by the central bank of renouncing its 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. But once the aprioristic assumptions of the Austrian Business Cycle Theory are accepted –that money is not neutral and that financial flows in the end simply mirror transactions in the real economy– then it necessarily follows that it is not possible to create capital from a printing machine. Therefore, the fact that the best course of action possible is one that does not solve the problem, but one that simply does not aggravate it, must be understood as a definitive flaw of the current arrangement and a most powerful indictment of it, a most powerful claim for its revamping.

*“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.”*

<sup>30</sup> About that the lesson of Mises is: “Deflation and credit contraction no less than inflation and credit expansion are elements disarranging the smooth course of economic activities” (Mises, 2007: p. 567).

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