Monetary Constitutionalism: Some Recent Developments

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Abstract

The volume edited by Leland Yeager more than 50 years ago and published in 1962 under the title *In Search of a Monetary Constitution* has turned out to be remarkably prescient since the Great Inflation was then about to begin. One might expect that in the wake of the Global Financial Crisis and Great Recession interest in monetary-constitutional matters would be revived and this has indeed been the case. In this paper an attempt is made to assess whether and to what extent scientific progress has been made in defining the nature and characteristics of a monetary constitution for the post-Crisis world. To that end some recent contributions to the literature are reviewed critically.

0. Introduction

Despite some contributions to the economic literature that have acknowledged the role of central banks in the financial crisis and how these institutions have contributed to the Great Recession and the meager recovery thereafter (see e.g. Hetzel 2012), most economists have been more interested in analyzing the technical role that monetary policy played during and after the crisis, thus taking the existent framework as given, than in considering and addressing alternative frameworks for monetary policy. Some economists have not only been supporters of the current hypothetically optimal monetary framework but have even argued in favor of further enhancements on central bankers' discretionary powers. Several economists such as Nobel Prize winners Buchanan, Friedman and Hayek, however, had addressed the technicalities of monetary policy within the context of broader political economy concerns. Their proposals should be situated within the more general framework of institutional and constitutional reforms of the rules of the "monetary policy game". It is in the tradition of these contributions that we review some recent contributions without being exhaustive. The aim is to raise questions and to stimulate the intellectual debate rather than to provide conclusive answers.

1. The Yeager 1962 volume and after

Leland Yeager's decision more than 50 years ago to organize a lecture series and the resulting volume on monetary constitutions (Yeager 1962) has turned out to be unusually prescient. It has been suggested that much damage might have been avoided if the world had listened to the message of the Yeager volume and subjected its central banks to the restrictions of a monetary constitution in the 1960s. (Rockoff 2015) In the aftermath of the

Global Financial Crisis one would expect thoughtful discussion of monetary constitutions to resume and this has indeed been the case. (White et al. 2015) In this paper we will review some recent contributions to this debate and try to assess if, and to what extent, scientific progress has been made in the search for a monetary constitution.

The characterization that Leland Yeager gave of the state of monetary scholarship in the final paragraph of his introduction to the 1962 volume *In Search of a Monetary Constitution* remains relevant today. (1) Yeager then wrote:

"A great deal of contemporary monetary scholarship (…) has concentrated on piecemeal and detailed study of our existing monetary structure and its performance. (…) The reforms proposed have generally been correspondingly minor. Meritorious though this detailed work has been, it unfortunately tends to narrow the scope of discussion, pushing aside and even subtly disparaging a concern with broader issues. The present volume is an attempt to redress the balance. In comparison with exclusive focus on detail, broad inquiries may bear upon different aspects of monetary theory and open new avenues of possible theoretical advance. In the long run, they may even have a wholesome influence on policy. If otherwise desirable and feasible, no reform must remain "politically unrealistic" except as thinking makes it so." (Yeager 1962, 25)

Today the time seems ripe to rethink monetary regimes fundamentally rather than to continue confining ourselves to marginal tinkering with the instruction sets for status quo institutions. (White 2015, viii)

Before presenting some theoretical considerations, and for illustrative purposes, I will first summarily review three specific debates. The aim is to illustrate the relevance of research into monetary-constitutional issues. These debates concern: (i) doubts about the possible effectiveness and legitimacy of central banking; largely as an application of (i): (ii) assessing and rethinking the Euro-system; and (iii) some specific criticisms of proposals for 100%-reserve banking.

2. Illustrating the Relevance of Research in Monetary-Constitutional Matters: Three Specific Debates

(i) Doubts about the legitimacy and possible effectiveness of central banking

As an empirical matter the monetary policy of the European Central Bank is from a Mises-Hayek perspective a failure in several regards as analyzed by Schnabl (2017). But can central bank monetary policy conceivably be effective-- let alone optimal-- in the first place? Among traditional arguments raising doubts about the possible effectiveness of central bank monetary policy mention can indeed still be made of the contributions of Mises and Hayek.

Mises on sound money and the impossibility of central planning

Money as a constitutional issue was probably first articulated by Ludwig von Mises, who wrote that “[i]t is impossible to grasp the meaning of the idea of sound money if one does not realize that is was devised as an instrument for the protection of civil liberties against despotic inroads on the part of governments. Ideologically it belongs in the same class with political constitutions and bills of rights." (Mises 1981, 454)

Less clearly acknowledged until more recently is the idea that Mises' argument concerning the impossibility of economic calculation under socialism, that is, his theorem of the impossibility of socialism (Mises [1920] 2009), applies directly to central bank monetary policy. Indeed the theorem of the impossibility of socialism, and the Austrian analysis of the social discoordination which inevitably follows institutional coercion and the granting of privileges at variance with the law, are directly applicable to the financial and banking system which has evolved in our economies. In banking and credit matters, our situation matches that which prevailed in the socialist countries of the former Eastern bloc, which attempted to coordinate their economic decisions and processes through a system of central planning. (Huerta de Soto 2006, 651 ff.)

Two of the commonly given reasons for state control in the monetary sphere are that by controlling the money supply the central bank can provide a monetary unit of stable purchasing power as a reliable basis for economic calculation, and that the central bank can at times of crisis support the economy with extra money injections. Much along lines suggested earlier by Mises Schlichter (2011) argues that both these notions fail the test of history and theory dismally. Elastic money is not the natural outcome of the market or of a growing economy. Elastic money is not needed, and an ongoing expansion of the supply of the monetary asset not required nor demanded by the public. (ibid. 5; 78)

The Hayekian knowledge problem

O'Driscoll (2016) emphasizes the importance of the arguments about knowledge and decision-making articulated by Hayek and later by Friedman in the context of monetary policy. The idea of optimal monetary policy is problematic in a world of dispersed information. The Hayekian analysis of the emergence of order confirms Friedman's intuition for a simple monetary rule. A monetary rule facilitates the emergence of monetary order. Moreover, the complexity of the world suggests simple rules. (Epstein 1995) Rules are effectively ways to reduce the information requirements of a complex coordination problem. Rule complexity would defeat the purpose of having rules. The more complex the phenomena, the stronger the case is for simple rules. (ibid. 348) (2) So the prospect for adopting a monetary rule is probably greater today than 50 years ago. What is unresolved according to O'Driscoll is the choice of a particular rule, a task that will require a great deal of additional analysis. (ibid. 350)

The political economy of second best: Is fundamental monetary reform possible under central banking? -- Recent proposals and assessment

Several authors go on discussing monetary policy reform proposals for a world of central banks. (McCallum 2015; Schnabl 2015) All such proposals raise the question of how to bind the central bank to the desired goals. Rules can be written out, but how can they be made binding? (also White ibid. xiv)

Since there is no principled or generalized justification for central banking in the first place -- despite claims to the contrary by authors like Goodhart (see further) -- proposals of this kind are better considered as belonging in the category of "second best".

A concrete reform proposal advanced by Scott Sumner is to institute a system for stabilizing the level of nominal GDP along a smoothly rising target path. A central bank could pursue such a target at its own discretion or it can be fastened on the central bank as a constitutional rule. (Sumner 2012a; 2013) Some suggest the Federal Reserve System pursued such a target under Alan Greenspan in the 1990s when nominal GDP grew at close to 5 percent year after year. In this view a successful policy is not one that stabilizes actual NGDP; rather it is one that stabilizes expected NGDP. Sumner argues that an NGDP futures targeting regime would in many ways be like a gold standard. The central bank would peg the price of a NGDP contract, much as the nineteenth century central banks pegged the price of gold. The advantages of NGDP futures targeting is that a stable expected NGDP growth path is much more conducive to macroeconomic stability than a stable price of gold. Sumner believes that if NGDP-targeting has been in effect in mid-2008, then the subsequent financial crisis would have been far smaller. (Sumner 2012b)

The NGDP targeting proposal has an extremely minimal role for the monetary authority: it proposes market-based implementation of monetary policy through a futures market in NGDP contracts. Salter (2014) argues that this condition renders an NGDP target consistent with the requirements of robust political economy and that this system represents a self-enforcing monetary constitution. Paniagua (2016b) to the contrary concludes that NGDP targeting, despite its self-reinforcing properties, falls short of fully achieving the desired properties of a robust monetary constitution. NGPD targeting maintains a "crude" aggregated form of expectational stability at the cost of potentially concealing distortions at the micro level. Borrowing from the framework of *Robust Political Economy: Classical Liberalism and the Future of Public Policy* (Pennington 2011) Paniagua (2016a) applies the concept of robust political economy to a more realistic evaluation of two specific monetary institutions--free banking and central banking broadly understood-- and finds that free banking's robustness outperforms central banking whenever actors' epistemic and incentive conditions, within the rules of the game, are less than ideal. In contrast, in a world in which actors are omniscient and benevolent, both systems possess the same degrees of political economy robustness and thus perform similarly. Sumner's proposal is critically discussed by

Woolsey (2015). It is not yet entirely clear if, how, and to what extent such proposals can be adapted to a European context.

Conclusion: Is there a rationale for central banking?

In general economic theory, monopoly is bad and an affirmative case must be made for it. (O'Driscoll ibid. 256) In this sub-field of economic science, however, the case for a monopolistic central bank seems to have become dogma.

The situation today has not changed very much since Vera C. Smith wrote in 1936:

"After 1875 the central banking systems of those countries which already had them were accepted without further discussion, and the practical choice of the one system in preference to the alternative was never again questioned. Moreover, the declared superiority of central banking became nothing less than a dogma without any very clear understanding of the exact nature of the advantages, (…)" (Smith [1936] 1990, 146)

Moreover, standard economic justifications for central banking do not take adequate account of historical reality and are therefore theoretically naïve. (O'Driscoll 2015, 273) The classic case against free banking as provided by Friedman (1960) is fallacious. (Klein 1974; Van Den Hauwe 2011) In a competitive monetary system, a virtuous cycle toward high-quality money would take place, not the race to the bottom that Friedman predicted. (3)

Ralph Hawtrey and others have viewed the lender-of-last-resort role of central banks as their primary function. (V. Smith [1936] 1990, 141) Walter Bagehot coined the phrase and first explicated how a central bank should act in a liquidity crisis: the central bank should lend freely on good collateral at penalty rates. In fact, central banks today do not follow Bagehot's strictures for a lender of last resort. (Humphrey 2010) They now typically lend freely at subsidized rates for periods well beyond any liquidity crisis.

In an important paper Selgin, Lastrapes, and White (2012) found that the performance of the national banking system was better than has been conventionally portrayed, and that the performance of the Fed has been worse than has been portrayed, thus providing the kind of comparative institutional analysis needed to challenge the dogma of central banking.

O'Driscoll points out that it is not correct to state that central banking and the gold standard are incompatible since they were not so historically. The best free-banking argument is that central banks are superfluous under a gold standard. (ibid. 269)

Based on Goodhart's (1988) *The Evolution of Central Banks* Paniagua (2017) examines both the theoretical arguments and the historical evidence that could sustain the case for the natural emergence of central banks. Scrutinizing the theoretical and historical claims that could justify the institutional inevitability, inherent necessity and institutional comparative advantages of central banks over alternative institutional possibilities, this author shows that Goodhart's institutional rationale for central banking is not inescapably a narrow rationale for it, but rather a rationale for a wider possible set of alternative polycentric arrangements able to provide crucial banking services. Central banks are not a natural, inherent phenomenon but rather the outcome of an evolution--dependent on a skewed institutional framework that suppresses competition and granted monopoly powers. It is also shown how competitive private clubs may better provide the "micro functions"; lending on distress, financial regulation and prevention of bank runs are not entirely "public goods" but rather they possess deep characteristics of "privateness". Hence their successful provision resides more within the realm of private competitive clubs than in the system of pure public goods. (Buchanan 1965) This has repercussions for banking policy and financial stability since it opens the possibilities of seeking banking reforms based on private governance and polycentric banking.

(ii) A Particular Case: Assessing and Rethinking the Euro-system

In a series of contributions Jesús Huerta de Soto (2012; 2013; 2015), a famous proponent of the gold standard, has argued that the euro should be considered a "second best to the gold standard" and is worth being preserved. From a classical liberal point of view, he sheds some light on the euro's similarities with the gold standard and on some important advantages of the currency union over its alternative, flexible exchange rates in Europe. According to Huerta de Soto, the main advantage of the introduction of the common currency is that—like when "going on gold"—European governments have given up monetary nationalism. Like the gold standard the euro limits state power as it prevents national central banks from manipulating exchange rates and inflating away government debt. In this sense the euro should be seen as "a proxy for the gold standard":

"Just as with the gold standard in its day, today a legion of people criticize and despise the euro for what is precisely its main virtue: its capacity to discipline extravagant politicians and pressure groups. Plainly, the euro in no way constitutes the ideal monetary standard, which, as we saw in the first section, could only be found in the classic gold standard, with a 100-percent reserve requirement on demand deposits, and the abolition of the central bank. Hence, it is quite possible that once a certain amount of time has passed and the historical memory of recent monetary and financial events has faded, the ECB may go back to committing the grave errors of the past, and promote and accommodate a new bubble of credit expansion (for instance, through outright monetary transactions or not). However, let us remember that the sins of the Federal Reserve and the Bank of England have been much worse still and that, at least in continental Europe, the euro has ended monetary nationalism, and for the states in the monetary union, it is acting, even if only timidly, as a proxy for the gold standard, by encouraging budget rigor and reforms aimed at improving competitiveness, and by putting a stop to the abuses of the welfare state and of political demagogy." (Huerta de Soto 2015, 18-9)

But the euro has in fact been criticized for a variety of reasons. In a critical paper Hoffman (2013) emphasizes that neither the gold standard nor the euro itself forced reforms and spending cuts upon countries that faced crisis and debt problems. The political commitment to the monetary systems determined the willingness to reform or cut spending. If countries wanted to adhere to the gold standard in times of crisis, credible policies and reforms were urgent. When such policies seemed too unpleasant or politically infeasible, governments left the gold standard. In the euro area, the greater institutional integration and the general European commitment to the European project and the euro allowed for rescue measures and policies that relieve the immediate adjustment pressure. This provides incentives to hold on to the euro *even if* necessary reforms are postponed. The bail-out mechanisms used to contain the crisis have rather strengthened the general political commitment to the euro and contributed to additional institutional integration.

Much less favorable to the euro are the analysis and assessment contained in Bagus (2010). Invoking Garrett Hardin's well-known parable of "The Tragedy of the Commons" this author characterizes the EMU as "a Self-Destroying System" and as "a Conflict-Aggregating System". The Euro is not a failure because participating countries have different structures, but rather because it allows for redistribution in favor of countries whose banking systems and governments inflate the money supply faster than others. Countries that have higher deficits than others can maintain trade deficits and buy goods from exporting states with more balanced budgets. The process resembles a tragedy of the commons. A country benefits from the redistribution process if it inflates faster than other countries do, i.e., if it has higher deficits than others. The implied incentives create a race to the printing press.

A detailed analysis of the problems of the Euro and a strong argument for rethinking the Euro-system from a constitutional perspective is also contained in Sinn (2014). The book tries to sort through the mess that the euro has created in Europe. The overriding theme of the book is that, before and during the crisis, the Euro-system experienced soft budget constraints. The Hungarian economist János Kornai predicted in 1980 that soft budget constraints would lead to the demise of the communist economic system (Kornai 1980) and the Eurozone currently runs the risk of sharing this fate. (ibid. 6) Sinn suggests that the USA and Switzerland, and not the Soviet Union, should be regarded as models for Europe. The easy access to the local printing press is arguably the key design flaw of the Euro-system and the feature that most fundamentally sets it apart from the US monetary system. By offering Target credit, the ECB has turned into an institution that carries out regional fiscal policies within the currency union, rendering the financing of particular countries and states largely independent of the capital market. Neither the unlimited Target credit line nor the OMT program have counterparts in the policies of the US Federal Reserve System. In the US, the printing presses cannot be used to provide particular states or regions with credit at below-market interest rates.

The currency union had a theoretical possibility of succeeding if those charged with steering it had abided by the stipulations of the Maastricht Treaty. However, they obviously lost sight of their goal after succumbing to temptations encountered along the way. The problem can be characterized as one of *time inconsistency*. Firstly, behind the veil of ignorance, some general rules are specified and enshrined in a treaty, but then, along the way, decision-makers prefer to ignore the rules and make decisions at their discretion. Following the rule of law may be inconvenient at a given time, but it is better in the long run, as it is the only way to overcome the problem of time inconsistency in policymaking.

As suggested by the fiscal federalism literature many fundamental considerations speak for a deepening of the European integration process all the way to the establishment of a European confederation like Switzerland. One of the problems that have to be tackled along such a path concerns the possible exploitation of minorities by the majority, a problem from which democratic decision-making bodies are not immune unless special rules are established to protect the minorities, such as a requirement for qualified majority or unanimity in decision-making. This is particularly relevant since the fiscal decisions of the ECB Council discussed in Sinn's book represent a particularly dramatic example of this problem, because they are adopted by simple majority—and in the case of ELA credit fewer—by a body that is not democratically structured. This has led to a massive redistribution among the countries of Europe and from non-involved taxpayers in the still-stable economies to creditors around the world.

The suggestion that the Euro-system can lead to the establishment of the United States of Europe is unconvincing. The road towards a joint-liability union and the mutualization initiatives of the European institutions during the crisis are more likely to lead to deep division in Europe. It is doubtful whether Europeans will continue to live in harmony if the public bail-out policy persists, for such a policy raises creditor-debtor relationships from the private to the public sphere, where there is no civil law to settle the disputes, and fuels heated public debates that stir up animosity and strife.

Finally, Sinn argues that it would be in the interest of some euro countries to temporarily exit the euro and devalue their new currencies in order to regain their competitiveness, a path which "represents the only chance of stabilizing the Euro-system". (ibid. 7) Europeans will thus have to go through a phase of a "breathing euro", i.e. a more flexible currency union that lies somewhere between the dollar and a fixed-exchange-rate system like the Bretton Woods system. (ibid.)

Despite a fundamental scepticism regarding the functioning of the Euro-system in its present form Sinn sees "no alternative to deepening European integration" and concludes that "[a] common European state would constitute the binding insurance contract without which it may prove impossible to achieve a fiscal union and a steadfast mutual risk sharing between successful and faltering regions to ensure the equality of living standards." (ibid. 8)

But is a common European state with all its attributes really necessary for deepening European integration? From an Austrian and market process perspective that would seem to be a most remarkable conclusion. In this connection attention can be drawn to a fundamental semantic confusion regarding the concept of *economic integration*. The point was well stated by Pascal Salin when he wrote in 1980 – and again more recently, see Salin 2016 -- with remarkable prescience:

"To analyze this question clearly, we must first of all get rid of a chronic misunderstanding which bedevils all the commentaries, practices and policies relating to European integration. This is the confusion between the concept of *competition* and that of *the harmonization of the conditions of competition*. "Competition" implies a freedom of choice, on the part of producers as well as consumers. But it does not imply—far from it—that all producers should operate in the same environment, and should be subject to the same "competitive conditions". (…) The only important thing is to insure competition at the level of the market for the finished product as well as at the level of the market for the factors of production." (Salin 1980, 25)

In the monetary sphere more in particular, the structure of the present monetary system of the European countries, insofar as it is *pyramidal*, *national* and *government-controlled* represents only one possible model within the space of logical possibilities. None of these characteristics is, strictly speaking, necessary to insure an optimal functioning of the monetary system. A fortiori, the conjuncture of the three of them is unnecessary. (ibid. 32; also Salin 2016)

Summarizing, the case of the ECB equally highlights the key problem for monetary constitutions which relates to how enforcement is to be handled. (Salter 2014, 282) Recent history suggests the need for a more rigorous enforcement mechanism, one that does not run into the problem of having enforcers whose interests, under predictable circumstances, conflict with upholding the rules. The constitutional constellation which the crisis has produced in an incremental way is in many respects unsatisfactory. Prospects for a comprehensive reform of existing Treaties or a new Eurozone Treaty are bleak though. Most likely, incrementalism, from which very few exceptions exist in the constitutional history of the Community/Union, will continue. (Tuori and Tuori 2014)

(iii) Specific criticisms of the proposal for 100%-reserve banking

In his contribution to the Yeager volume Rothbard advocated a "100 percent gold dollar". (Rothbard 1962) In Rothbard's vision, fractional-reserve banking would be illegal. Banks could issue notes or deposits, but essentially they would be warehouse receipts for a fixed physical quantity of gold.

One question that arises with respect to Rothbard's plan is whether near-moneys might be a problem. According to Rothbard an asset was either money or not money. He saw no problem with banks issuing "short-term debentures" even if these debentures were backed by long-term bank loans rather than 100 percent by gold. (Rothbard 1962, 116) It has been pointed out that if these debentures functioned, at least to some degree, as money--if they came to be used, for example, for making payments--then the same problems would arise under Rothbard's scheme as under more conventional gold standards. (Rockoff ibid. 26) Yeager complains that the fuzziness of just what now counts as money, together with the ongoing ingenuity of financial innovators, leaves such a requirement both impossible to specify in adequate detail and unenforceable against powerful incentives to evade it. (Yeager 2015, 2)

The repeated references of advocates of 100%-reserve proposals to justifications in terms of "ethics", "ethical principles", "natural rights" etc.--see e.g. Block and Davidson 2010-- has led to the critique that their proposal is explicitly based on an “external” standard of legitimacy and is at odds with applying the constitutional-contractarian "internal standard of evaluation". (Köhler and Vanberg 2015) This critique seems to be at least partly based, however, on a misunderstanding of what exactly the position of advocates of 100%-reserve banking on ethics is. (4)

In 1960 only Murray Rothbard explicitly recommended stopping government's issue of money and leaving that function to private enterprises. The recent debate between advocates of 100%-reserve free banking and fractional-reserve free banking—which is really a debate about the exact meaning of freedom in banking-- really took off only later. It is impossible to review this debate in full detail here. (5) Two remarks nevertheless seem appropriate here, however:

(i) Some disagreement still persists about what exactly Mises' position on this issue was (Block and Davidson 2010; Salerno 2010) and:

(ii) In recent times a debate has arisen about whether the 100%-reserve requirement is actually sufficient to prevent business cycles or whether it could be maintained that any maturity mismatching is illegitimate and/or inefficient. (6)

Could the 100%-reserve rule be enforced?

A key problem for monetary constitutions concerns the question of how enforcement is to be handled. (See further.)

In a section entitled "The Impracticality of 100-Percent Reserves" Yeager (2001, 256-7) had written:

"Before explaining how a system free of base money might work, I'll review doubts about enforcing 100-percent reserves. Not only cannot banks earn interest by lending out any of the money deposited with them; they incur storage and other operating expenses, which they must pass on to their customers. Banks and their depositors (and also potential borrowers) see gains from wriggling around this requirement. By doing so, they can in effect reap seigniorage and share it among themselves, while any of them still maintaining 100-percent reserves would be practicing self-denial for the benefit of free riders. (…) History shows that incentives to evade a 100-percent-reserve requirement are powerful; and numerous financial innovations testify to the ingenuity available to respond to them, including checkable money-market mutual funds and asset-management accounts. Checkable equity mutual funds are readily conceivable. (….) Efforts to monitor and stamp out all institutions and practices that would have the effect of fractional-reserve transactions accounts, including efforts to keep the law abreast of innovations, would require a hyperactive and practically totalitarian state and would probably prove futile after all. "Ought implies can," as the philosophers say; or more exactly, "ought presupposes can." Nothing impossible can be morally obligatory."

Yeager is arguing that a monetary constitution based on a 100%-reserve requirement would not be a self-enforcing monetary constitution and makes the even stronger claim that it could not be enforced except by a "practically totalitarian state". This is actually a quite subtle critique which is also echoed --although implicitly--by Pascal Salin.

According to Salin (2016) fractional-reserve banking originated as an indirect means for producers of gold certificates to have their services remunerated (ibid. 249); thus fractional-reserve systems were preferred to 100%-reserve systems on the basis of the cost-benefit calculations of the producers and users of money certificates. (ibid. 253) This analysis suggests that the 100% -reserve system did not meet the incentive requirement of a self-enforcing monetary constitution. This view concerning the historical origins of fractional-reserve banking contrasts sharply with the view of many advocates of the 100%-reserve requirement in banking (full-reserve banking) who hold the view that fractional-reserve banking originated as a consequence of the fraudulent behavior of bankers often aided by public authorities. (Huerta de Soto 2006)

This debate may, however, lose much of its significance in the age of internet. As Pascal Salin points out, one of the beneficial effects of the internet on monetary systems of the future may well be a change in the role of reserves. As Salin writes:

"La diminution des coûts de circulation de la monnaie rend moins nécessaire le rôle des réserves fractionnaires comme moyen indirect de rémunérer les services de circulation monétaire. De ce point de vue, on devrait s'acheminer vers des situations où les coefficients de réserve augmenteraient et se rapprocheraient du système de réserves à 100%. Il devrait en résulter une moindre instabilité cyclique dans la mesure où celle-ci dépend essentiellement à notre époque de la variabilité de la quantité de monnaie, elle-même liée à la variabilité du coefficient de réserves, donc de la politique monétaire." (ibid. 856)

This evolution would bring the 100%-reserve system closer to a self-enforcing system.

The foregoing considerations highlight a key problem for monetary constitutions: How is enforcement to be handled? As Salter (2014, 282) points out "[a]n intriguing possibility is to solve the enforcer problem by sidestepping it entirely: Instead of relying on an external authority to enforce the constitution rule, formulate the rule to be *self-enforcing*." Ideally, rules coordinate behavior by anchoring individuals' expectations, thus providing the framework within which mutually beneficial interaction can take place. (Brennan and Buchanan 2000 [1985])

Advocates of 100%-reserve banking have rather generally taken the enforceability of their favored rule for granted and not seriously considered the matter. Still the issue of enforceability and of the costs of guaranteeing such enforceability is no trivial matter to be taken lightly. (See further.)

3. Some Further Theoretical Considerations—

(i) Why a monetary constitution? –

The lessons of history

Historical evidence supports the hypothesis that governments have an inherent bias towards inflation, a bias that is strengthened if they are operating under adverse conditions, though some of these conditions may also be consequences of government actions. In the long run the inflationary bias of government can only be limited or fully checked by adequate monetary constitutions binding their hands. (Bernholz 2001) The Big Contrast to be noted is the one between Gold and Silver Standards on the one hand and the Fiat Paper-Money standard on the other. Except for during the French Revolution, all hyperinflations in history with monthly inflations of more than 50 percent occurred after the breakdown of the gold standard. Under the gold standard both the hands of politicians and of central bankers were bound. This was no longer true after the convertibility of banknotes into gold at a fixed parity had been abolished. (Bernholz 2015)

The general case for rule-following from a public policy perspective --

The sub-discipline within economics most naturally and directly concerned with constitutions is Constitutional Economics. Buchanan defined the notion of constitution in the simplest way as a "set of rules which constrain the activities of persons and agents in the pursuits of their ends and objectives". (Buchanan 1977, 292) Constitutional Political Economy examines the choice of constraints as opposed to the choice within constraints. (Van Den Hauwe 2000, 608) The main function of the constitution for the economy, as seen by Buchanan and proponents of his Constitutional Economics, is to serve as a commitment mechanism. Most analyses within Constitutional Economics concern in particular either constraints placed by citizens on representatives of state power or constraints placed by the state power on citizens. The constitution is in these cases treated as a mechanism allowing for counteracting the time-inconsistency problem connected with pusuing public policy. (Metelska-Szaniawska 2016, 17)

As regards the conduct of monetary policy in particular, the debate regarding (pre-commitment by) rules versus discretion is an old one dating back at least to Henry Simons (1936) paper. More recently Kydland and Prescott (1977) showed that a regime that pre-commits policymakers to behave in a particular way is preferable to a regime that allows policymakers pure discretion, that is, to choose a policy independently at each point in time. It is today commonly accepted that a strong case is to be made that a monetary policy regime that demonstrates a high degree of commitment would lead to better economic outcomes but also that perfect commitment by policymakers is almost impossible to achieve in a democratic society and that rules-based policy, although one useful mechanism to enhance the credibility of commitment, is not perfect. (Plosser 2016)

Summarizing along the lines suggested by Salter (2014) there are three general reasons why a monetary constitution—a rule, which may or may not be formalized, that constrains the ability of any special interest to meddle with the monetary framework to achieve their own ends--is desirable:

(a) The already mentioned time inconsistency problem, first articulated by Kydland and Prescott (1977) and later applied by Barro and Gordon (1983);

(b) Robust Political Economy which raises the question "Which institutions perform best when people have limited knowledge *and* are prone to self-interested behavior?" Robust political economy suggests that an enforceable—ideally self-enforcing-- monetary constitution is desirable because it (i) checks agents' (policymakers and individuals alike) self-interested behavior and (ii) mitigates the less-than-perfect cognitive capacities of these agents by providing a stable institutional framework that anchors expectations. (ibid. 284);
(c) Property rights and constitutional governance; arbitrary, i.e. non-rule based, interventions in the monetary framework can undermine property rights and introduce an element of uncertainty into the economic system.

(ii) Narrower and broader concepts of "monetary constitution" --

In the most general sense a genuine constitution provides the basic framework that determines how behavior, including economic activity, is controlled. In particular, it establishes boundaries concerning the kinds of choices that are permissible and provides the mechanism for deciding how the harms and the benefits flowing from a decision are allocated between the decision maker(s) and other members of the society. (De Alessi 1992, 321)

With respect to the monetary sphere in particular Köhler and Vanberg (2015, 65) state that "(a)ny monetary regime, be it in the private or the public sphere, that operates within a framework of rules can in the most general sense be said to be "constitutionalized," but the term "monetary constitution" is typically used in a more specific sense, implying that specific rules pertain to the production and use of money that go beyond the general system of rules that otherwise govern the operations in markets and politics."

In the narrower sense a monetary constitution has also been defined as a rule or set of rules aiming essentially at limiting the discretionary powers of the monetary authorities, e.g. by imposing certain limits to the growth rate of the monetary base or the money supply. Under this definition a competitive system of money supply is not strictly a monetary constitution. (Salin 2016, 300) According to context we will here use not only the narrow but also the broader concept of monetary constitution comprising but not limited to the notion of (second-best) constitutional rules that are needed to limit money issue once government creates a central bank that issues fiat money (because there is no natural limit). (White introduction ix)

More specifically different opinions about the appropriate monetary constitution can be interpreted as different answers to two sets of basic questions that immediately arise when thinking of monetary institutions in constitutional terms: (i) Do we want constitutional provisions that *empower* government to act in the monetary sphere? Or: (ii) Do we instead want only provisions that *prohibit* government from interfering with money? Does anything special about money warrant a positive role for the state? Or do the general principles of property law (namely, following Hume, the stability of possession, transfer by consent, and enforcement of contracts) already give us all we need in the way of rules for monetary institutions? (White ibid.) Differing views on both sets of questions can be found in the literature and the respective answers to these questions all belong to the domain of constitutional inquiry in the broader sense.

The view that will be upheld in this paper, however, is that the case for an explicit and distinct monetary constitution is far from obvious. The burden of proof definitely rests on those authors who advocate proposals for such a distinct constitution. (7)

(iii) Should Money be Constitutionalized?

Several recent contributions have offered more or less comprehensive assessments of Buchanan's writings on monetary issues. Boettke, Salter and Smith (2016) argue that Buchanan's contributions to monetary economics form the foundation of a robust monetary economics paradigm and that the need for more fundamental reform of our monetary regimes at the constitutional level in the post-2007 crisis milieu makes Buchanan's work on monetary constitutions more relevant than ever before. Several fundamental issues are also explored in D'Amico (2007). Both these papers contain assessments of Buchanan's first explicit treatment of monetary problems in constitutional perspective to be found in the 1962 article "Predictability: The Criterion of Monetary Institutions" (1962), which appears in Leland Yeager's *In Search of a Monetary Constitution*.

According to Buchanan (2015, 52) it is relatively straightforward to argue that the monetary structure of a market economy should be constitutionalized rather than allowed to emerge anarchistically or to be subjected to arbitrary political manipulation. (ibid. 52-3) Neither anarchy nor ordinary politics offers effective monetary predictability and stability. Buchanan refers in this connection to the subtitle "Between Anarchy and Leviathan" of his 1975 book *The Limits of Liberty*, which in his opinion applies with special descriptive relevance to the monetary foundations of the inclusive political economy. (ibid. 57)

The constitutional focus is on the means through which outcomes are to be generated rather than on the outcomes themselves. Such outcomes are open, so to speak, in the sense that they are allowed to emerge so long as the processes of their emergence are constitutionally permissible. (ibid. 53) The monetary constitution differs in that here the outcome itself is the direct objective. That which is to be accomplished, to the extent that is possible, is stability in the value of the monetary unit itself, with less relative attention or emphasis on the means or processes through which the result is to be achieved. Stability in the value of the unit is the aim—stability that may be attained through small, medium, or large quantities of the units in being. This value, in itself, is not one among alternatives, any of which may be selected. (ibid. 53)

Generally Buchanan grants that monetary arrangements can evolve spontaneously within a system of property rights, but he maintains that the evolved outcome wouldn't generally be efficient, because money has technical aspects of a public good.

The claim that money is a public good or exhibits market failure is criticized by White (2015) as controversial. Money balances are a rival and excludable good--that is, a private good--and are efficiently provided by the market. Nor does the market fail to converge on a common monetary unit, which is naturally tied to the commonly accepted medium of exchange on which it converges. One unit of account is enough, so there is no market under-provision. However, it has been argued that if the market –chosen common monetary standard is not the best standard available, a case exists for affirming that a switch to a better monetary standard can in principle be more efficiently made through government-coordinated collective action. (ibid. xi)

Köhler and Vanberg (2015) distinguish explicitly between matters of *legitimacy* and matters of *prudence* in constitutional choice. The central tenet of constitutional economics is that constitutional regimes, monetary or otherwise, can ultimately derive their legitimacy from no other source than the voluntary agreement among the members of the group that are subject to the respective regimes. With regard to the second question this implies that, if advisers want their recommendations to find acceptance, the arguments they offer in their support must appeal to the common interest of the ultimate addressees, convincing them that they can benefit from heeding the advice. In other words, advisers must seek to convince their addressees that prudent pursuit of their own interest requires them to choose what is recommended.

It is interesting to consider how these authors evaluate Austrian monetary theory from their constitutional economics perspective. Responding to Buchanan (2010), Horwitz (2011) had charged that the term "monetary anarchy", if it is meant to denote a regime of "competitive money production" and "free banking", disregards that such "laissez-faire in money" is not anarchic in the Hobbesian sense but presupposes that "the right *general* constitutional protections for private property, contracts, and the rule of law are in place". The authors object to Horwitz' contention that beyond these general constitutional protections that any effectively working market requires, no further special constitutional provisions are necessary for money to serve the function that Buchanan seeks to secure, on the ground that "the term "monetary constitution" is typically used in a more specific sense, implying that specific rules pertain to the production and use of money that go beyond the general system of rules that otherwise govern the operations in markets and in politics." (ibid. 65) One might argue, however, that the burden of proof rests on those who maintain that such specific rules are needed for the production and use of money and not on those who want to submit the monetary sphere to the same general rules applicable to all other fields of economic activity. The authors distinguish between the "unhampered market" and a "regulated market regime" but what is usually characterized as the "unhampered market" is of course already a regulated regime to the extent the general rules regarding property and contract law are applicable.

The authors also charge that Horwitz does not explicitly refer to the citizens as the ultimate sovereigns in constitutional choice since "arguing that the emergence of gold as money can be explained along the lines of Menger's methodological individualistic account (…) is not the same as answering the question of the gold standard's legitimacy as a constitutional regime." As they conclude:

"In this sense, Horwitz's argument for a gold-based monetary regime, constrained only by the general provisions of the private law, can be said to appeal tacitly to an "external" criterion of legitimacy, as opposed to the "internal" standard of normative individualism. No reasons are provided for why the constituents should have an interest in agreeing to this plan for monetary anarchy, (…)"(ibid. 82)

The question raised by Horwitz at the end of his 2011 paper nevertheless remains fundamental:

"If constitutional protections for property, contract, and exchange are capable of generating a functional and non-politicized monetary system, then cannot we argue that any constitution that provides said protections also implicitly contains a monetary constitution? If free banking theory is correct in explaining the process by which such a system will emerge and in judging its welfare properties, as I believe it is, then I think the answer is yes. There is no need for a distinct monetary constitution when the right constitutional rules so ably identified by the constitutional political economy literature are already in place."

Whether this perhaps somewhat unintuitive result can be summarized by stating that the constitution that protects property rights and promotes contract enforcement *is* a self-enforcing monetary constitution, though it may not explicitly be intended as such (Salter 2014, 295) remains an open question.

Of course, we might agree with Horwitz that there is no need for explicit and distinct constitutional treatment of money and thus also agree with his notion of an *implicit monetary constitution* but still disagree about the exact meaning of freedom in money and banking and his specific idea and precise definition of the general rules of conduct regulating the sphere of money and banking. The historical development of the Anglo-Saxon common law system took a path different from that of the legal system of continental Europe which did not deviate from its Roman law origins (with respect to the institution that concerns us here). (8) What is true of banking seems to remain true of the monetary sphere more generally. (9)

This brings us to the enduring debate between advocates of fractional-reserve free banking and those of 100%-reserve banking. Most recently this debate has focused on issues relating to the ethical legitimacy of fractional-reserve banking. The co-mingling of two mutually exclusive financial contracts, deposit and loan, creates unsolvable legal difficulties and ethical dilemmas. (See Bagus et al. 2017 and the references there.)

Köhler and Vanberg also complain that "advocates of "free-market regimes" do not always pay due attention to the critical difference between the sub-constitutional and the constitutional level of choice. Rothbard had indeed argued with respect to exchanges on a free market that "[s]uch an exchange is voluntarily undertaken by both parties. Therefore, the very fact that an exchange takes place demonstrates that both parties benefit (or more strictly, *expect* to benefit) from the exchange. The fact that both parties chose the exchange demonstrates that they both benefit. The free market is the name for the array of all voluntary exchanges that take place in the world. Since every exchange demonstrates a unanimity of benefit for both parties concerned, we must conclude that *the free market benefits all its participants*. In other words, welfare economics can make the statement that the free market increases social utility, while still keeping to the framework of the

Unanimity Rule." (Rothbard 1977 [1956], 27)

The critique of Köhler and Vanberg is worth being quoted in full:

"Rothbard's argument is in agreement with the perspective of constitutional economics in insisting that voluntary agreement among the parties concerned is the ultimate sorce from which legitimacy in social affairs is to be derived. Its shortcoming lies in the fact that it blurs the difference between the constitutional and the sub-constitutional level of choice to which constitutional economics seeks to draw attention. It blurs the difference between the issue of what legitimizes transactions *within a market order* , that is, at the sub-constitutional level, and the issue of what legitimizes the *market order itself* as a constitutional regime. (…) Contrary to what Rothbard's argument suggests, the voluntary agreements that legitimize market exchanges cannot per se legitimize the market as a constitutional order. The latter can derive its legitimacy only from agreement expressed at the constitutional level, at which the choice among alternative constitutional regimes is at stake. And such agreement is not tested by the agreement to transactions within the rules of the market but by individuals' preference for the market order compared to potential alternative arrangements." (ibid. 67)

This passage manifests several questionable assumptions about what the position of Rothbard and of authors who agree with his arguments and approach exactly is. In this view it is not stipulated that the market order as a constitutional regime is legitimized by participants' voluntary agreement to exchange transactions within that order but by objective ethical principles the validity or legitimacy of which does not depend upon voluntary contractual agreement, whether or not manifested in market transactions. In order to clarify this position I will recall hereafter some of the criticisms that have been leveled against the constitutional economics approach from a praxeological perspective.

Austrian (praxeological) critique of the constitutional economics perspective

Rothbard's critique of Buchanan and Tullock's *The Calculus of Consent* is contained in Rothbard (1997). As Rothbard points out, the unanimity rule, seemingly libertarian, actually turns out to be more of a fallacious support for the *status quo* than a plea for libertarian principle. Similar critiques are contained in Rothbard (1998, 203-6) and in Rothbard (1976).

Rothbard in particular criticizes the attempt as follows:

"A more interesting variant of the economist's attempt to make value-free value judgments is the "unanimity principle," recently emphasized by James M. Buchanan. Here the idea is that the economist can safely advocate a policy if *everyone* in the society also advocates it. (…) For one thing, the requirement of unanimity for any action or change begins with and freezes the status quo. For an action to be adopted, the justice and ethical propriety of the status quo must first be established, and of course economics can scarcely be prepared to do that. The economist who advocates the unanimity principle as a seemingly value-free pronouncement is thereby making a massive and totally unsupported value judgment on behalf of the status quo." (Rothbard 1976, 97)

Hoppe (2006, 51; also 2001, 229) rejects the central idea of the public choice school that "both the economic relation and the political relation represent cooperation on the part of two or more individuals" by pointing out that government and private firms are engaged in categorically different types of operations. Constitutional economics as an attempt to characterize government and state action as a form of voluntary cooperation is also criticized by Block and Dilorenzo (2000).

The search for a monetary constitution might be phrased in terms of efficiency by stating that a monetary constitution should be efficient. But what can be meant by the statement that a monetary constitution is or should be efficient?

Several problems with the use of efficiency criteria by economists are analyzed in De Alessi (1992). This author comes to the conclusion that "economists frequently compare the efficiency of various institutional and contractual arrangements and confidently identify optimal rules of law without noting or, perhaps, even realizing, that the efficiency criteria they used are value-loaded."(ibid. 321-2) In fact no discipline or combination of disciplines can provide a value-free basis for prescribing a constitution or any other set of rules.

Within the context of neoclassical economic theory, efficiency may be defined as constrained optimization. Current concepts of efficiency are firmly rooted in the mathematics of constrained optimization that characterize neoclassical economics and focus on the comparison of alternative equilibrium conditions. To compare institutions on the basis of equilibrium conditions that will never be attained in a world of change and uncertainty ignores all information about the process of change itself. (ibid. 340)

The constitutional economist will answer that such efficiency derives from voluntary agreement expressed at the constitutional level. This approach remains subject to criticism. Unanimous consent is scarcely sufficient to establish an ethical principle and it remains doubtful whether consent can establish efficiency.

Following Rothbard, Huerta de Soto (2009, 1-30 and passim) has formulated an alternative concept of dynamic efficiency and has also taken inspiration from Kirzner's contributions in clarifying the connection between this dynamic efficiency concept and the sphere of ethics. As this author points out it does not follow from the fact, established by economic science, that valuations, utilities and costs are subjective that no objectively valid moral principles exist and can be applied. As he concludes: "In effect, from our point of view, only justice leads to efficiency; and, *vice versa*, what is efficient cannot be unjust. "(ibid. 172; and passim) For an elucidation of how economic science, even if it is *wertfrei* or free from value judgments, is able to help to adopt clearer ethical positions, reference can also be made to Lemennicier (2006).

(iv) The Lessons (and Limitations) of "Robust Political Economy" --

As mentioned already, several authors have recently borrowed insights from the Robust Political Economy framework (Pennington 2011) to explore how it could be used as a tool for institutional analysis in order to evaluate alternative monetary frameworks. This approach has in common with the dynamic efficiency approach proposed by Huerta de Soto the argument that the efficiency standard set out in the neo-classical model has little relevance to the practical evaluation of market processes relative to systems of political control.

Within this context, a "robust" set of institutions may be defined as one that generates beneficial results even under the least favourable conditions. (Leeson and Subrick, 2006)

Such conditions may arise as a consequence of human imperfections. In the context of institutional analysis there are two human imperfections that must be accounted for when considering the robustness of alternative regimes. The first of these is the "knowledge problem" already mentioned. Human beings are limited in their cognitive capacities. Robust institutions should therefore allow people to adapt to circumstances and conditions of which they are not directly aware, and under conditions of "bounded rationality" must enable them to learn from mistakes and to improve the quality of their decisions over time. (Pennington ibid. 3)

The second human imperfection that must be accounted for is the possibility that people may act out of self-interested motivations. People may not be willing to contribute towards the advancement of their fellows' interests unless they are able to gain some personal benefit from doing so. Incentives may matter, and as a consequence institutions must be judged on their capacity to channel potentially self-interested motivations in a way that generates beneficial outcomes at the societal level. (Pennington ibid. 3)

Summarizing, robustness in this context thus refers to "a political economic (or institutional) arrangement's ability to produce social welfare-enhancing outcomes in the face of deviations from ideal assumptions about individuals' motivations and information". (Leeson and Subrick 2006) A robust political economy of institutions and decisions thus seeks answers to the following three questions:

(i) Which institutions perform best when people are not omniscient?
(ii) Which institutions perform best when people are motivated by self-interest?

(iii) Which institutions perform best when people have limited knowledge *and* are prone to self-interested behavior?

The RPE framework acknowledges that modelling institutions under the assumptions of perfect knowledge and benevolence is erroneous because it is based on false premises concerning human nature and its endowments. RPE suggests that more robust institutions are desirable, first, because they leverage and check economic actors' self-interests and reorganize incentives structures to promote wealth-enhancing outcomes in the form of non-distortive monetary policies. Secondly, they provide the context into which knowledge, knowledge proxies and relevant information for policymaking could emerge and be communicated so that cognitive limitations of individuals and policymakers can be circumvented. (Paniagua, 2015, 18)

In this connection it has been suggested that a monetary constitution should, as much as possible, be self-enforcing. Which monetary constitution --if any-- is self-enforcing? If the monetary constitution is founded on unreasonable assumptions concerning agents' knowledge or incentives, it is also unreasonable to expect the monetary constitution to enforce itself. (ibid. 286) The knowledge problem applied to monetary constitutions requires the monetary constitution to be upheld even when agents—whether ordinary market actors or policymakers--know very little about how the economy "really works". (ibid. 287) With respect to the incentive issue a self-enforcing monetary constitution must be one that agents operating within the system--both policymakers and private agents--have an incentive to uphold rather than undermine. (ibid. 288) Modern discretionary central banking does not meet this challenge.

It does not seem too difficult to argue that free banking outperforms the robustness of incentives and political pressures on monetary policy of a centralized arrangement. Current arrangements, particularly central-banking arrangements, do not leverage the self-interested behavior of the participants within the monetary rules of the game. Hence in situations of less than perfect altruism, the optimal monetary policy is superseded by politically optimal ones, weakening its political economic robustness. (ibid. 23)

Even if we assume benevolent agents, central banking would still have to be able to find the perfect model of the economy to implement optimal monetary policy. Central banks rely on heroic assumptions concerning few individuals' capacities to know the true unique model of the economy, as well as on their capacities to correctly update the model when the underlying economic circumstances change.

Several critical observations are appropriate at this point:

(1) It is not entirely clear whether, to what extent and how the RPE approach can be rendered compatible with or can even enrich the ethics-based approach mentioned

previously. Although the RPE approach aims to provide a useful framework for thinking about monetary policy provided through alternative institutions, authors embracing this approach apparently do not consider the proposal for 100%-reserve banking worthy of any consideration from the perspective of their particular approach. There exist several – at least two -- possible or conceivable decentralized arrangements that might replace the actually existing central-banking arrangements. Fractional-reserve free banking is not the only candidate.

(2) The reasons for this neglect are unclear but, as mentioned already, several authors have explicitly stated or implicitly suggested that the 100%-reserve system would not actually meet the requirements a self-enforcing monetary constitution. If a self-enforcing monetary constitution has rules that agents acting within the system will uphold even in the presence of deviations from ideal knowledge and complete benevolence, then, these authors suggest, the 100%-reserve system is not self-enforcing since agents under 100%-reserve banking, as traditionally conceived, would face strong incentives to deviate from the 100%-rule, that is, agents would face strong incentives to undermine and deviate from rather than follow the rules of the game. Rules are self-enforcing when agents acting within the system serve their self-interest by maintaining the rules. The 100%-rule would not meet the requirements of a self-enforcing arrangement in this sense. A possible reply might consist in pointing out that external enforcement can and should solve this problem. Still the objection remains relevant for reasons relating to the comparative cost-benefit assessment of different institutional forms: self-enforcement is preferable because it will be less costly than external enforcement. If a particular institutional form is not self-sustaining, then attempts at nevertheless installing and sustaining it, for instance through some deliberate concerted effort by the government or a political authority, might come at a high cost, and even then prove ultimately impossible to sustain. (also Van Den Hauwe 2011, 463) This can also be expressed by stating that a self-enforcing monetary constitution is more efficient than a constitution that is not self-enforcing because it will create an environment where the gains from market exchange will be larger. Even an ethics- or natural-rights-based approach cannot entirely disregard or neglect issues relating to the costs of enforcing or sustaining a particular monetary arrangement.

(3) A potentially questionable ingredient of the RPE approach concerns its reliance on a monetary equilibrium framework. In this view the degree to which social-economic institutions will be determined robust or fragile depends first and foremost on the benchmark that those institutions aim at and this benchmark is monetary equilibrium. However, the case for a flexible money supply through the issuing of fiduciary media—whether under central or free banking—is extremely weak. (Bagus and Howden 2011) Arguably the case for "elastic" or "flexible" money is inexistent. (Schlichter 2011) However, this does not mean that the RPE approach does not yield

any valuable insights, only that this particular benchmark is not the right one. Further research along these lines is desirable.

4. Conclusion

If convergence toward intersubjective agreement on central issues is a mark of a mature (and perhaps rigorous) science, then the state of economic thinking about monetary constitutionalism seems at first sight rather depressing. As far as the participants to the 1962 Yeager volume did not speak with a common voice and did not agree on a clear blueprint for a monetary constitution, the situation today does not seem very different from what it was then. Still there are clear signs some progress is underway. The sub-field of "constitutional economics" has emerged as a fully elaborated research program and this development has without any doubt stimulated interest in constitutional issues in general and in monetary-constitutional issues in particular. One might consider that a disproportionate amount of ink has been wasted in the debate between fractional-reserve free bankers and 100% -reserve free bankers. Still this debate has yielded some robust institutional analyses and raised new issues and attempted answers. More importantly doubts and skepticism about the legitimacy and possible effectiveness of central banking are much more widespread today than 50 years ago even if there remains far more agreement about the fragility and ineffectiveness of central banking than about the answer to the question what kind of decentralized arrangement should replace it. Finally, as the politicized debate on the Euro-system illustrates the mainstream approach is still unnecessarily clouded by ideological prejudices. This circumstance does not foster scientific agreement. More generally, however, it nevertheless seems that the appreciation of defenses of classical-liberal (or even libertarian) solutions, as illustrated both by Huerta de Soto's dynamic efficiency framework and by the Robust Political Economy framework now seems somewhat on the rise.

Notes

(1) Professor Yeager's 1962 volume was based on a fall 1960 lecture series he had organized at the University of Virginia. A recent review of the lectures of 1960 is contained in Yeager (2015). The 2015 volume *Renewing the Search for a Monetary Constitution* (White, Vanberg and Köhler 2015) contains the revised versions of the papers presented at a 2012

symposium held in Freiburg-im-Breisgau, Germany, which was timed to mark the 50th anniversary of the 1962 publication of the Yeager volume.

(2) Milton Friedman presented his own take on the knowledge problem in Friedman (1968). He offered two propositions, the first being that monetary policy should do no harm. Too often, central banks violate that norm. Second, he argued that monetary policy should provide “a stable background for the economy” (Friedman 1968: 12-13). “We simply do not know enough” to engage in discretionary monetary policy (Friedman 1968: 14).

(3) Benjamin Klein (1974) modeled a competitive system of money under a fiat standard. That aspect was unpersuasive to Friedman and many others. But Klein was surely correct that competition results in better products and services. Friedman offered a lemons model for competitive money and not a natural monopoly. Friedman had a model of competition without competitors, in particular a model in which money is not branded. (see also O'Driscoll 2015, 257)

(4) It can be argued, however, that to the extent gold spontaneously emerged as a generally accepted medium of exchange and is freely chosen in voluntary agreed exchanges and market transactions, it must be considered on this basis as being responsive to the interests of the market participants involved.

(5) See, however, Van Den Hauwe (2009).

(6) In this connection reference can be made to, among others, Barnett & Block (2009a; 2009b; 2011), Bagus & Howden (2009; 2010a; 2012a; 2012b; 2013a; 2013b), Bagus (2010b), Block & Davidson (2011), Davidson (2014a; 2014b), Bagus, Howden & Block (2013).

(7) Prof. Huerta de Soto has recommended simply replacing the current web of administrative legislation which regulates banks with a few simple articles to be established in the Penal and Commercial Codes. (Huerta de Soto 2006, 741) These simple modifications to the Commercial and Penal Codes would make it possible to abolish all current banking laws in Spain. It would then fall to ordinary law courts to evaluate the behavior of individuals who might be suspected of breaking any of the prohibitions concerned. As Prof. Huerta de Soto concludes: "This process would logically include all the guarantees characteristic of a constitutional state, guarantees conspicuously absent today in many administrative actions of the central bank." (ibid. 742) What is true for Spain should be true for other countries too.

(8) In particular the doctrine equating the monetary irregular-deposit contract with the loan or mutuum contract has also prevailed in Anglo-Saxon common law, via the creation of law in the binding case system. See Foley v. Hill 1848. For further references, see Huerta de Soto 2006, 125.

(9) As I explained in my 2011 paper:

"The proposition that banking in general is to be considered an industry like any other can be acknowledged as accurate provided it is correctly interpreted, that is, if it is understood in the following sense: There are no reasons not to subject the business of banking to the same general rules of conduct as those to which other kinds of business are subject. The question then remains what exactly those rules are. Finding a generally acceptable answer to this latter question constitutes the real source of controversy in this domain."

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