Why Price Stability?[1]

An Answer From the Perspective of Modern Institutional Economics

by

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The Maastricht Treaty contains the following statutory mandate: "The primary objective of the ESCB shall to be to maintain price stability."[2] But why attach such importance to price stability - and what does "price stability" mean? The latter question contains an historical component, the former is of a theoretical nature. I will therefore deal with the "what" and the "why" of my theme in the following three sections:

1. Historical review of the concept of "price stability";
2. The preservation of price stability – from a classical aspect; and
3. The preservation of price stability – from the perspective of the modern institutional economics.

1. Historical Reminiscences

The concept of general price stability took shape only slowly. David Ricardo (1821/1951, 354), who was able to conceive of a definitive paper money of stable value, though to the shock of his contemporaries, was not thereby thinking of a stable price-level but of a stable price of gold. To achieve the latter, he argued, it was sufficient for the note-issuing bank to regulate its issue of bank notes by relation to the fixed price of the money good (the standard of coinage). Yet he doubted that any central bank issuing paper money could give a credible promise with respect to the stability of that price. Hence he regarded as indispensable the obligation of the central bank to redeem its notes in a monetary commodity (1811/1951, 99).

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[2] Article 105, section 1, clause 1, VEG of 7 February 1992 in the proposed amendment of 2 October 1997.

The occasion of Ricardo's observations was the rise in the price of gold between 1809 and 1810, which he attributed to an over-issue of notes by the Bank of England as a consequence of the suspension of its obligation to redeem those notes (1811/1951, 95).

Naturally, people knew that a stable gold price was not equivalent with general price stability, and there was also talk about the relation between new discoveries of gold deposits and general price increases. Missing was, though, a general measure of the price level and, as a result, of general price stability. Index calculation began only to prevail during the second half of the 19th century (Pfanzagl 1955). The today worldwide used Laspeyres and Paasche indices appeared in the *Jahrbücher für Nationalökonomie und Statistik* of 1871 and 1874 respectively.[3]

General price stability became only an issue in the work of famous monetary economists around of the turn of the century, among them Knut Wicksell and Irving Fisher. On both a few words, beginning with

Irving Fisher (1911, Ch. XIII) who claims:

"It is true that the level of prices might be kept almost absolutely stable…" (1911, 329). He lists three methods:

1. Make inconvertible paper the standard money, and regulate its supply with that specific purpose in view.
2. Regulate the supply of metallic money by a varying seigniorage charge.
3. Issue paper money, redeemable on demand, with a varying standard of coinage so calculated to keep the price level constant.

Fisher preferred the third method, the gold-exchange standard combined with a tabular standard. (1911, 348)

He writes that through the development of index numbers we are today in the position of being able to "scientifically standardize the dollar" (Fisher 1913, 28). But first the public would have to be convinced of the necessity for prices to be stable – and therefore of the stabilization of the dollar. People must become aware that a (time) contract concluded today in monetary units is precisely as speculative in nature as a futures contract. Contracts expressed in money units (money loans) are nothing more than a sub-species of futures contracts in general, and it is immaterial as to whether the monetary units are expressed in terms of a particular quantity of a monetary substance (a gram of gold) or in terms of a number of abstract units of account

[3] Cf. Laspeyres (1871) and Paasche (1874). For an appreciation of the work of Laspeyres see Rinne (1981).

(DM, €)[4] [4].The ideal standard for future payments (standard of deferred payments) is therefore a money possessed of constant purchasing power, expressed by a constant cost-of-living index or the indexation of a money debt in accordance with the cost-of-living index.

Knut Wicksell (1898/ 1936 193) was convinced that it was possible to construct a measure of value, invariable as to magnitude, and thereby to maintain the price of goods at a stable average level. He regarded it "unworthy of our generation that without pressing cause the most important economic factors are left to pure chance" (viz. the discovery of precious metals). For him, the ideal solution was an international paper standard. At that time, that was a completely hare-brained idea. Still 25 years later, Friedrich Wieser wrote in the *Handwörterbuch der Staatswissenschaften* that a paper currency is unsuited for use in world trade, and that only gold can serve as a world money. (Though this is not totally incorrect: it is true until today for states that have fallen into political disfavor.) Interestingly, neither of the two daring proponents of stable prices, Irving Fisher and Knut Wicksell, touched upon the credibility problem in their proposals.

Gottfried Haberler (1927), in his *Der Sinn der Indexzahlen*, took issue with the concept of the price-level and the methods by which to measure it. In his view, index numbers are calculated for various purposes, but it is very unlikely that there exists a single number which would meet the demands of all those varying purposes and so express "the" value of money(1927, 76). What is meant, he asked, by saying that "the aggregate price-level of an economy should be stabilized"? "The price-level for whom?" (1927, 117). "One must from the beginning restrict oneself to a few selected types"(119). That is: while there can be no scientifically exact indexation, as Irving Fisher (1911) believes, there is still a practicable method of proceeding: since the individual indices taken together vary uniformly, we could speak of the movement of an aggregate price-level "and even make an approximate calculation of it" (1927, 122).

An interpolation: If that is so, why not measure the degree of price stability by means of a (probabilistic) sample of the inflation rates of individual consumer goods, perhaps weighted by the rate of turnover of the goods concerned? That does not occur in Germany and many other European countries. The reason for that may be that the population which is being sampled must be clearly defined. That is difficult for consumer goods or goods in general, because what precisely is a good? While the answer is simple to the theoretician, to the statistician or practitioner it is not (Pollak, 1998, 174). A way out that suggests itself is to enumerate

[4] An idea to which Nussbaum (1925) also alludes.

a selection of concrete goods.[5] The goods basket of the standard family that figures in the cost-of-living index is in consequence not much more than a convention agreed upon by statisticians (Pollak 1998, 74), suitable for measuring changes in the price of a bundle of particular goods over the course of time. Whether it is useful for measuring the change in the actual cost of living is another question. Nevertheless, in Germany that index is often used for the indexation of long-term contracts, and so it is not only a convention agreed upon by some statisticians but also a social convention among the users of money. Still, the precise composition of the commodity basket is known only to very few of them, a fact that invites to political manipulations.

> In Germany, in the consumer price index are – lovingly detailed – about 750 goods items of everyday life including, among them, in addition to housing and food, such things as wedding rings (1 pair, 585/1000, simple design), cemetery fees (annual charge), five kinds of cut flowers (roses, standard carnations, tulips, freesias, gerbera, chrysanthemums (1 stem of each)), the currently most-purchased goods. The item "pharmaceutical products" (including those for animals) is interesting: it is given a weight of 1 per 1000, made up of medications (including prescription charges) with a weight of 0.95 per 1000; Carmelite spirit (*Melissengeist*), a weight of 0.025 per 1000; and effervescent vitamin C tablets, one of 0.025 per 1000. The precise composition of the category "medications" is covered by data protection legislation. The Statitische Bundesamt provides only the following overall description: "On a monthly basis, the observation of prices is related only to the approximately 300 medicaments with greatest turnover". Of course, a similar general procedure could be followed for all consumer goods. What is interesting is the large number of goods which are considered here in comparison to the two pharmaceutical products which are not part of "medications": Carmelite spirit and effervescent vitamin C tablets; or in comparison to the 15 types of fruit, 25 types of vegetables and so on, that I have not considered here. Consumer polls may play a certain role in this context, though for various reasons they run up against certain limits in the case of medications, but they are also otherwise of questionable value. As a result, the commodity basket is to a degree based on expert judgment and the geographical areas to be polled are cut out on a practical point of view (cut-out sampling).[6] All in all, it is a completely arbitrary procedure that we have here.

Social conventions are a matter of faith. Insofar we may say with Simmel (1907/ 1978) that the value people accrue to money is of a similar kind as religious faith. Simmel continues: "Without the general trust people have in each other, society itself would disintegrate… In the same way money transactions would collapse without trust." (1978, 178 f.) As any faith, the faith in the purchasing power of money, the confidence in stable money, is of a fuzzy, irrational nature. Feelings play their part.

[5] One way of meeting the problem is to use the European Article Number (EAN) (or the US Universal Product Code) to draw up such a list; see Haan, Opperdoes and Schut (1997).
[6] For a survey, see http://unece/org/stats/Documents/ ces/ac.49/1997/15.e.html

Social conventions cannot be imposed by law, but law – a suitable monetary constitution – can certainly create conditions conducive to the evolution of certain social conventions. I shall take up this point now, but first permit me a brief glance at the classical theory of the preservation of stable prices, the quantity theory.

2. The Quantity Theory of the Paper Standard

In clarification, the term "paper" is not to be taken literally here. All the data carrier of units of account of a not in commodities redeemable money are included in it. For paper money to have a positive value, the quantity of it supplied must be scarce and it must be in demand. Price stability exists if, on trend, the quantity of money grows in precisely the same proportion as (real) national income – assuming the demand for money is a stable function of (real) national income. This is the simple consideration which underlies the Friedman Rule (Friedman 1960, 91). For the USA. Friedman recommends a 4% growth in the quantity of money, of which 3% was related to US average economic growth and 1% to the secular decline in the velocity of circulation of money (the ratio between nominal national income and the quantity of money). Fluctuations in prices because of seasonal or cyclical influences should, according to Friedman, not give rise to changes in monetary policy. He therefore regards the goal of the central bank to preserve price stability only in the sense of the long-term, not in that of the short- or medium-term. Rather, the foremost aim of the central bank policy in the short- and medium-term should be a fixed rate of growth of the money supply. The reason is that, according to Friedman (adducing statistical evidence for his argument) , measures of monetary policy fine-tuning yield their effect on the price-level only with much too variable time-lags (of between 4 and 29 months) to be practicable (1960, 88). Ad hoc reactions by the central bank will diminish rather than raise the stability of the economy (the level of economic activity) and of the price-level. On the contrary, his rule would work rather like a built-in stabilizer. For the rest, a satisfactory rule for monetary policy should relate to a magnitude which the central bank can control more directly than the price-level.[7]

The opponents of the Friedman Rule doubt that the demand for money function is stable, and

7 However, Friedman explicitly indicates that he does not regard a stable growth in the money supply as a "be-all and end-all of monetary policy for all time" (1960, 98). "It is a rule that has much to recommend it in the present state of our knowledge. It would avoid major mistakes that have marred our past record. It would assure long-run stability in the purchasing power of the dollar. But as I should hope that as we operated under it we would accumulate more evidence and learn to understand more fully the workings of the monetary mechanism. As we did so, we could perhaps devise still better rules for controlling the stock of money that could command widespread professional support and public understanding" (98ff.)

point to the problem of achieving a sufficiently precise measure of the quantity of money and thereby changes in it. As well, they are inclined towards interventionism and reject taking all the trumps out of the hands of the central bank.

In fact, the demand for money at first appeared to be a highly stable function of other magnitudes (Laidler 1977), until in the 70s the US demand for money function suffered a structural break (Goldfield 1976).[8] That was not without its effect as an argument against the quantity of money target. I will not enter further here into the debate on monetarism, but merely permit myself to make one comment on the dispute as to the measurement of the quantity of money: To measure the quantity of money, and thereby to arrive at a figure for the target of a fixed rate of change in that quantity, is as problematic as the measurement of the price-level and thereby of the goal of price stability. With the concept of the quantity of money, too, we are ultimately dealing with a convention – of the statisticians and the users of money. Suppose that we understand the money growth target as part of a social convention between the central bank and the public, with all its imprecisions and irrationalities: then it is not surprising that the existing trust of the DM-users in their currency was not shaken by the frequent failure of the Bundesbank to meet its pre-announced targets. I shall take this aspect up in the next section.

A Remark in passing on the Monetary Theory of employment

The paper standard by its very nature affords opportunities for political manipulation, including monetary policy to influence the level of employment. In fact, many economists and politicians are still convinced of this possibility. They appeal to Phillips (1958), who provided the statistical proof that a higher level of employment might be purchased at the cost of a lower level of price stability.

After the epochal articles of Milton Friedman (1968) and Edmund Phelps (1967), who both recurred to the classical theory, and after the utilization of the rational expectations hypothesis by Robert Lucas (1973) in this connection, this conviction weakened. Nevertheless, there are today many well-known economists who regard the Friedman-Phelps conclusion as valid only for the long-term. and so believe that monetary employment policy can still be of some effect in the short-term (cf. Taylor 1977, 1979, Stanley Fisher 1977). A central role in this context is played now by the Taylor Rule (Taylor 1993), according to which the monetary interest rate should be varied in response to deviations of real GNP and the rate of inflation from their

[8] Probably as a consequence of the financial innovations of that period (Judd and Scadding 1982, 1014ff.).

target values. Hence monetary policy should pursue a two-fold goal. The Maastricht Treaty also obliges the ESCB to support the economic policy of the Community (which certainly means, its cyclical policy as well), but only in so far as "this is possible without impeding the goal of price stability". This phrase is an object of interpretation. It does not exclude the reading that the ESCB is obliged to help combat deflationary tendencies in the level of economic activity with (short-term) inflationary measures.

3. The Institutional Economics of Paper Money

With the gold standard, the obligation to redeem and the standard of coinage[9] were legally laid down with the utmost clarity, but there was no role for the stability of the purchasing power of money. In the period 1876-1914, the annual rates of change of the index for foodstuffs and housing in Germany varied between -5.2% and +6.0%.[10] Only on an average of 30 to 50 years was there price stability, as defined by the ESCB's, i.e. rates of inflation of less than 2%.[11] With the paper standard, on the contrary, there are no precise rules which could be compared with those underlying the gold standard. Yet, after great problems initially in some countries, it functioned very well – as, e.g., in the Federal Republic of Germany between 1948 and 1998. The annual inflation rate of the DM in this period, apart from the eventful first five years after the currency reform, varied between -0.22% and +7.03%, with the average rate lying at +2.8%. The international paper standard too, which had taken its first stumbling steps only about 30 years before, functioned very well – if also with greater exchange rate fluctuations than under the gold standard. After disorderly beginnings (1973-85) 2/3 of the DM/$ exchange rate values established itself for the remaining time of the DM at a level of 1.66DM/$ of ±8.6%; [12] [13] the dollar interventions made by the Bundesbank had greatly declined. This outcome did not precisely support Milton Friedman's assertion that flexible exchange rates are stable if only they are left alone, but that remark no longer looks so misguided as it did in the first phase 1973-85. Much better outcomes are scarcely to be expected, for, in contrast to the international gold standard, under an international paper standard the purchasing power parity relates not to only one good (gold), dealings in which are well-

[9] 1395 Marks per pound of fine gold.

[10] Calculated from data of Kuczynski in Deutsche Bundesbank (1976, 6).

[11] In Germany, an average of 0.8% in the period 1876 to 1914 (Richter 1989a, 240f.).

[12] Under the gold standard, the Mark/US-$ exchange rate fluctuated within a band of ±0,7% around the gold parity rate of exchange.

[13] Richter (1999, 120ff.)

organized in all industrial countries, but to all traded goods, whose international trade can be organized in part only at considerable cost. These costs are the sunk costs of market organization, which make unavoidable the large deviations of nominal exchange rates from their real values (calculable purchasing power parities). [14] (According to the asset theory, deviations of exchange rates from their PPP themselves are due to the fact that exchange rates are to be conceived of as the relative prices of investment securities, which are traded on a markets influenced by expectations – like the prices of shares.[15])

What are the reasons for the evident practicability of the paper standard? How, in a so imprecisely defined system, can "stable money" be possible? I shall seek answers to this question from the viewpoint of modern institutional economics. Those answers are, from the historical aspect, a mixture of the *The State Theory of Money* by Georg Friedrich Knapp (1905, 1924) and the opposing views of Carl Menger.

Knapp begins his book (1924, 1) with the sentence:

"Money is a creature of law,"

a proposition which appears to be confirmed by the currency reform 1948 or the Maastricht Treaty.

Menger (1963, 155) argues to the contrary:

"Money has not arisen by law…"

Rather, it is the outcome of a social convention. Without the implicit agreement of all the members of a currency community, no (complete) money [13] can exist – no money that is recognized as general means of payment, general unit of account, and general standard of deferred payments. What can be imposed by law is at most the general means of payment (a classic example: the assignats of the French Revolution), but not the unit of account and the standard of deferred payments generally employed in economic transactions.

An example: in the German hyperinflation of 1923, the means of payment was always still the Mark, a creation of the legal system, but the unit of account was (very widely in practice) the US dollar, a social convention; (new) debts expressed in monetary terms were indexed.[16]

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[14] See Dixit (1989) for an illustrative model.

[15] See Dornbusch (1976), Frenkel (1976), Mussa (1976), Lucas (1978).

[16] A clause safeguarding the value of money debts clearly establishes the way in which the money debt, expressed in units of account (DM), is to be determined by use of a price index, the rate of exchange of a foreign currency, the price or quantity of fine gold, or by other goods and services. In Germany, such agreements were made dependent on the approval of the Deutsche Bundesbank after the currency reform of 1948, according to

Without implicit agreement – social convention – therefore no money in the full sense of the term. To theorize a little: Social conventions can be modeled as pure coordination games, i.e. "games" in which there is no conflict of interest.[17] An example of such an imagined game is afforded by the implicit solution of the question: should we drive on the right or the left lane of the road on a newly settled island. There exist two coordination equilibria: all drive on the right or all drive on the left lane. Question: Which of the two equilibria will the new inhabitants of the island implicitly – i.e., without communicating – choose? Answer, "the coordination equilibrium that is somehow *salient*: one that stands out from the rest by its uniqueness in some conspicuous respect" (Lewis, 1969, 35). If they come from countries in which driving is on the right, the salient solution for them is "drive on the right"; they will implicitly agree to that solution. Schelling (1960) uses the term "focal point" rather than "salient solution". The actors implicitly choose the focal point; Menger paraphrases "implicitly" as "without any agreement , without legislative compulsion, even without any consideration of public interest" (Menger 1883, 176). In the equilibrium of the pure coordination game, none of the players has an incentive to deviate from their plan of action, to the extent as other players do not do so. In the terminology of game theory, it is a "Nash-equilibrium".[18] There are usually a number of Nash-equilibria. In a pure coordination game (where there are no conflicts of interest) without communication, the "salient" equilibrium will be chosen.

The concept of a Nash-equilibrium is at the core of so-called "institutions-as-equilibrium-of-a-game approach". What is meant by that is the equilibrium of a repeated game about the endogenous rules of a given super-game.[19] Lying behind it is the plausible idea that institutions can only enduringly function when every individual regards it advantageous to adhere to their explicit or implicit rules in the long-run as well.

As soon as transaction costs play a role, as in the case of the exchange of goods, the choice of the monetary good (the general means of exchange) is still a coordination problem, but now the coordination equilibria are ranked according to their efficiency and that good which gives

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article 3 of the Währungsgesetz of 20 June 1948.

[17] Lewis (1969, 36ff.)

[18] Nash (1950). Note that a Nash-equilibrium is not necessarily an equilibrium particularly worth searching for. On the contrary, it may be a catastrophically bad equilibrium for all the participants. In addition, there exist usually a multiplicity of Nash-equilibria.

[19] Thus Schotter(1981, 29). The rules of the super game are given. Aoki (2001, 13) correspondingly defines an institution as a "self-sustaining system of shared beliefs" as to a dominating ("salient") method to play repeatedly a [particular] game [with given exogenous rules]. The Nash-solution of the repeated game is a definite number of endogenous rules. In this approach, the (endogenous) rules of the repeated game are themselves an object of explanation. In the "rules-of-the-game view" of, e.g., North, all the rules of the game are assumed to be given.

rise to the least transaction costs will be chosen as the monetary good.[20] In Menger's words this is the good with the greatest "marketability" (Menger 1909, 561). These properties are possessed in our cultures by precious metals such as gold or silver; they may be equally efficient as means of exchange. The gold standard would then be (for whatever reason) the salient solution among the efficient solutions of the pure coordination game "choice of the monetary good".[21]

But what is the salient efficient solution under a paper standard? Menger's simplified model of the pure coordination problem takes us no further here, for the conflict of interests is part of the nature of the paper standard, the conflict between the issuers of paper, the state (a monopolist), to whom accrues a rent, and the users of money, who have to pay it. By its very nature, therefore, the paper standard cannot be conceived of – not even in a simplifying model – as the solution to a pure coordination game, but at most as the solution to a pure game of conflict.[22] We thus need a mixture of Menger, Knapp, and still others.

First of all, Knapp: paper money is *eo ipso* a creature of law. Abba Lerner (1947, 313) writes that the trick which the modern tax state can play to create money (more precisely, means of payment) is very simple. It enacts a law under which those liable to taxation have to pay their taxes in certain government bonds. Paper money is thus in effect nothing more than a small denominated zero government bond with which taxes are to be paid.[23]

In a world without transaction costs, all rates of inflation pre-announced by the money supplier could be thought of as Nash-equilibria because in such a world, money is neutral[24]; all prices change by the same multiple; the level of the rate of inflation plays no role, if only it is known in advance. The money rates of interest would be then higher to the extent of the rate of inflation, and price-increase would be completely neutralized[25]. But in that world we have no need for money. In the world with transaction costs, on the contrary, in which we can actually use money, money is not neutral. The problem is the limitation of the rents accruing to the state from the issuing of money, if only from the viewpoint of the willingness of the po-

[20] Niehans (1969, 717).

[21] We have adopted a simplified model (analogous to Menger) to analyze the choice of the monetary good as a pure coordination game. The situation is different in reality, cf. the historical conflict of interest between the gold and silver producers and the dramatic debate on bimetallism in the second half of the 19th. century. (Lexis and Terhalle 1926; Richter 1989a, 252ff.)

[22] The terminology employed here is drawn from Schelling (1960, 83-118, 291-303).

[23] With this legal figure, Duden could have given a considerable easier justification of the terms of a money claim or a money debt, than with his suggestion of the legal figure of membership (1968, 7, n. 12a).

[24] Richter (1989a, 181ff.)

[25] Laidler and Parkin (1975), Irving Fisher (1930, 37-41).

tential money user to go along with it. An inflation rate of zero (price stability) gives rise to the least transaction costs and is, if doubt exists, the efficient solution. This case too may be thought of as a Nash-equilibrium. But now one problem arises which did not occur to Knapp or Lerner or many other writers: Assume that the state promises to guarantee price stability. Will it be believed by rational money users? No! For if they believe it and hold new titles as cash, it will be advantageous to the state to surprise the money users ex post with an "inflation tax", i.e. ex post to expand the quantity of money vigorously. Rational money users anticipate that and hold no cash, and also do not use state money at all as unit of account or standard of deferred payments. The result is that the inflation feared by rational money users is realized simply through their own behavior.

The state therefore does well to give a credible purchasing power promise. Under the paper standard, that requires additional institutional arrangements, of whose possibility, e.g., Menger had not thought and therefore advocated the gold standard as did Ricardo[26].

The following arrangement proved to be successful: the state (Parliament) passed a law according to which

1. only one institution, the central bank, has the right to issue notes;
2. the management of that bank is not bound by directions from the government; and
3. it is given the statutory mandate "to guarantee price stability".

But the independence of the central bank from directions of the government is still not credible. To achieve that, the management board of the bank must be made up of people who have the reputation of standing for stable money, and who are not at any price ready to jeopardize that reputation. The means by which the purchasing power promise is then enforced is the threat by the users of money to destroy the reputation of the members of the central bank's management board, by unleashing rises in prices through their refusal to use the money. Thus the currently predominant theory.[27]

Yet I do not regard this explanation as convincing, for it leaves two possibilities out of con-

[26] "The fluctuations in the world price of precious metals seem to me at the moment to carry within themselves less danger than the regulation of the domestic exchange value of money [its purchasing power] by governments or social parties" (Menger 1909, 595).

[27] There is an extensive literature on this topic. In addition to Kydland and Prescott (1977), there are the works of Barro and Gordon (1983), Blackburn and Christensen (1987), Persson and Tabellini (1990) among others. For a survey see Persson and Tabellini (1990) as well as Ch. 3 in the book of collected articles edited by Persson and Tabellini (1994). These are works of the "new classical macroeconomics", according to which in the short-run, despite the hypothesis of rational expectations, room remains for monetary stabilization policy. We announce our doubts about this approach.

sideration:

1. Members of the board, say the President of the central bank, can have an interest, with respect to their subsequent political career, in "milking" their reputation after taking up office. The underlying theory is based on the simple calculation that the individual is honest (keeps his word) only so long as honesty is more profitable to him than dishonesty (Telser 1980, 29).
2. The law relating to the central bank is not carved in stone. The government majority (legislator) can, after the successful introduction of a stable money, alter the central bank law to their advantage; in particular, they can introduce binding instructions to the bank and begin an inflationary policy. In given circumstances, they can exert pressure upon the management board by simply threatening to change the law.

The Kydland-Prescott solution itself is to that extent not "dynamically stable".

A more convincing instrument for the enforcement of the purchasing power promise of the government exists in the democratic state subject to the rule of law : It consists of the latent threat to vote the government out of office ("voice"). For the ultimate responsibility for the purchasing power of money lies with the government , and hence the threat to oust it from office is the ultimate guarantee of stable money in a democratic constitutional state subject.[28]

But even then, our paper standard resting on enforcement of stable money would still not yet function. Self-enforcement only works when the promisee can also recognize whether the promisor has kept its word. Given the imprecision surrounding the concept of price stability outlined above, that is more difficult for the individual to recognize under a paper standard than under the gold standard. In addition, modern central banks are not only legally obliged to preserve price stability but also to support the general economic policy of the state, which may wish to react to unforeseeable developments (cf. VEG, article 105, section 1, clause 2).[29]

For the central bank in the interventionist state, uncertainty as to what the future may bring is added to the imprecision already pointed to.

To the management of a central bank, obliged to intervene in certain situations, can be prescribed just as little as to the management of a firm what it must do in critical situations. Yet what can be prescribed to it – or what it itself can promise to do – is the observation of a focal

[28] The alternative threat of "exit" would be credible for domestic currency users only when things became very bad (we use terminology of "exit" and "voice" in the sense of Hirschman 1976).

[29] With the reservation that the ESCB shall support the general economic policies in the Community "without prejudice to the objective of price stability…" (VEG Art. 105, section 1, sentence 2). The reservation is a matter of interpretation by the ESCB. It does not exclude short term inflationary thrusts.

principle in taking its decisions. For example, the announcement of a money supply target or of an inflation target in association with the promise to justify subsequently any deviations from that target. Kreps (1990) calls the focal principle along with the way in which it is communicated as "organization culture". In Germany, in this context the concept "stability culture" has come into general use.[30] Like any culture, stability culture presumes the existence of common values.[31] Once again we are reminded of Simmel's idea of a belief in the value of money similar to "religious faith".[32] Feelings are of importance.

So much for the neo-institutional economics of a national paper standard. Under the international paper standard, there are in addition conflicts of interest between national governments. If the international paper standard is to function, the individual states must agree amongst each other as to a fixed exchange rate or credibly oblige themselves to refrain from interventions in the foreign exchange market. Even then, in the latter case, variations in exchange rates will not be maintained within a narrow band. What is more, the promise of non-intervention in the foreign exchange market (therefore not "to lean against the wind") is not credible. Individual states have the incentive to yield to domestic political pressure to create a temporary competitive advantage by devaluing their currency (Gärtner 1987, Bernholz 1989).[33] The credibility of the promise not to intervene can in this case possibly be brought about by a leading nation – say, the USA. In the political science literature, this situation is termed "hegemonic cooperation".[34] The Plaza Agreement and the Louvre Accord can be interpreted in this sense (Richter 1989b, Richter and Schmidt-Mohr 1993). Nevertheless, nothing is for free. The hegemon creates orderly conditions in the international foreign exchange markets in exchange for a longer-term favorable exchange rate, as occurred with the Louvre Accord. Means of political pressure also figure in the picture in situations of hegemonic cooperation, such as e.g. the verbal attacks of the American Secretary of the Treasury James Baker in October 1987 on the then-vice-president of the Deutsche Bundesbank Helmut Schle-

[30] Richter (1994a, 82).

[31] In an analogous fashion, and without having game theory in mind, Henry Kissinger (1994, 77) accounts for the occasional functioning of the European equilibrium of powers. He writes: "Power is too difficult to assess, and the willingness to vindicate it too various, to permit treating it as a reliable guide to international order. Equilibrium works best if it is buttressed by an agreement on common values".

[32] Simmel (1958, 165)

[33] The possible inflationary consequences of a devaluation are not absolutely "common knowledge" among the users of money and voters.

[34] Keohane (1984, 49), Snidal (1985).

Schlesinger.[35] Yet, from then until the end of the DM, the DM/$ exchange rate was to some extent stabilized, as I have already pointed out above.

Another way in which the promise of non-intervention can be made credible consists of an agreement upon a common currency. The European Monetary Union provides a case in point. The credibility problem is here shifted [20] onto the purchasing power promise of the member states of the EMU. The political responsibility lies with the Council of Ministers in combination with the Parliaments of the member states. It would be difficult, presently, to change article 105 of the Maastricht Treaty in favor of „Brussels." But that doesn't mean to say the Maastricht Treaty is carved in stone. The threat of voting the legislators out of office (the threat of "voice") is here not very convincing. It would have an effect only if the foundation of the EMU is followed by the foundation of a democratic European constitutional state. Until then the influence on the Maastricht Treaty is governed by the old European balance of power game[36] – buttressed by the corset of the EU - with the currency order among the bargaining chips.[37]

[35] Cf. Baker's attack on the German rises in interest rates "engineered by Bundesbank Vice-President Helmut Schlesinger", which, according to Baker's -completely false- view were the cause of the crisis in financial markets on 19 October 1981 (Wall Street Journal, Oct. 19, 1987; Richter 1989b, 714).

[36] cf. Kissinger (1994).

[37] American authors such as Feldstein fear that the monetary union could give rise to discord: "…the shift to EMU and the political integration that would follow it would be more likely to lead to increased conflicts within Europe and between Europe and the United States" (1997b, 61).

4. Concluding Remarks

Why price stability? The answer of modern institutional economics is: because price stability is the focal principle of the actors, by which the rattling skeleton of a paper money economy geared to intervention is held together – in any case, of a paper money economy with the inflationary experiences of Germany. Irving Fisher's demand in 1913 that one first has to convince the public of the necessity of stable money has been thoroughly fulfilled for us by history. Certainly, price stability cannot be enforced by law, but it can be made possible, and indeed by the creation of a legal system that makes the purchasing power promise of the state credible. To that extent, stable paper money is a creature of law, even if in a sense different from that in which Knapp argued: the monetary constitution must convincingly bind the hands of the government. In practice, the interposition of an authority, the central bank, has proved itself which has the sole right to issue definitive paper money, is not subject to direction by government and legally obliged to maintain price stability.

The enforcement mechanism of the purchasing power promise of the democratic constitutional state is the latent threat to the government that it will be voted out of office. It bears the ultimate responsibility for the stability of the currency. The government will therefore set up a credibly independent board of the central bank and neither openly nor covertly exert influence upon that independence.

The history of the DM offers a good example: In 1948, the German voters were unanimous in wanting a stable currency, after they had lost their accumulated savings twice in the past 25 years. Still, the independence of the West-German central bank was pushed through by the Western occupation forces, in particular the Americans, against the stubborn resistance of German politicians and experts.[38] Once understood, no government in Bonn in its right mind would have ventured to loosen the law establishing the Bundesbank so as to favor the Federal Government, party politics or social groups, by perhaps making the Federal Chancellor simultaneously president of the Bundesbank, by supplementing the *Zentralbankrat* with a *Bundestag* committee or by representatives of the trade unions and employers' associations, or so on. A simple majority of the *Bundestag* would have sufficed to do so.[39]

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[38]. Buchheim (2001, 2); more there on the supposedly "German" model of an independent central bank.

[39] Still, one Bundeskanzler – Konrad Adenauer in 1956 – toyed with the idea of a restriction of the Bundesbank's independence, though not its already existing law but during the drafting period of the Bundesbank Law, which had to replace the original American made Law of the *Bank deutscher Länder* (cf. Buchheim 2001 ff. and Kabinettsprotokolle 1998, 473 ff.).

From the viewpoint of the institution as an equilibrium of a repeated game, the national monetary constitution depicted in this paper portrays a self-enforcing state of stable prices.

We can understand the international paper standard, as it has developed in the last 30 years, in an analogous sense. The focal principle of the actors is the domestic and external stability in the purchasing power of their currencies – hence national price stability and international exchange rate stability. The international monetary constitution must for that purpose bind the hands of the agents of the states in a two-fold way: with respect to their national purchasing power promises, and their promise not to intervene in the international foreign exchange market. A variant of the latter is hegemonic cooperation, in the sense of the Louvre Accord; another is the absolute fixing of exchange rates, made credible by a common currency in the style of the European Monetary Union.

Suppose we compare the national paper standard with the gold standard. Was the purchasing power of the DM more stable than that of the Mark before 1914? In one sense, yes; certainly. In West Germany from 1954 onwards there were practically no negative rates of inflation[40] as there were in Germany before 1914. The positive inflation rates had approximately the same maximum value (6 to 7%) as in the Kaiserreich. Because of the missing negative halves, the average inflation rate of the DM (1950 to 1998) reached a somewhat higher level (2.8%) than the average inflation rate in the Kaiserreich (0.8%). But whether the cessation of deflation after 1954 is to be celebrated as a success for the monetary policy of the Bundesbank may be doubted. For, other than as before 1914, after the Second World War money wages were rigid downwards and the prices of many consumers' goods were state-administered.[41] In the movement of prices, that may have reflected itself in the ratchet effect

Was the transition to a paper standard worthwhile, especially if attention is fixed upon the external as well as internal stability of currencies? Has Knut Wicksell's or Irving Fisher's dream of a currency with stable [value] – or at least stable purchasing power – been realized? That may be doubted . As well, in view of the enormous personnel costs of modern central banks it is questionable whether the paper standard ties up less resources than the gold standard. It may be that today the stocks of gold could no longer cover the demand for international liquidity. The problem could possibly have been met by another version of the international commodity standard. What is decisive is that times have changed. The desire to keep open the possibility of monetary interventions is dominant. Yet, because of the uncertainty of

[40] With the exception of the minor figure for 1986: -0.22%.

the future, interventions cannot be held under control by rigid rules. In this context, it was advantageous to exchange the old, sharp focal point of a stable price of gold for the new, imprecise focal point of the concept of price stability. A new institution geared to possibilities of intervention and international negotiations has established itself. It is a new, self-enforcing order, which hopefully is robust enough to withstand greater economic or political shocks.

[41] E.g., Sachverständigenrat, Jahresgutachten 1996/97, # 114.

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