

## Working Paper No. 334

### Reflections on the Current Fashion for Central Bank Independence

by

Jörg Bibow

The Jerome Levy Institute of Bard College

July 2001

The author gratefully acknowledges helpful discussions with and comments from Sheila Dow; James Forder; Charles Goodhart; Geoff Harcourt; Michael Kuczynski; David Laidler; Steve Pressman; Bob Rowthorn; Jochen Runde; Tom Rymes; Hans-Michael Trautwein; the participants at the Money, Macro, Finance Conference 1999, held at the University of Oxford; and the participants at a seminar at the University of Ottawa, Canada, on November 28, 2000. Last, but not least, the author is grateful for the hospitality and financial support provided by The Jerome Levy Economics Institute of Bard College.

#### INTRODUCTION

Central bank independence is a topical theme in modern monetary theory. Theoretical support for central bank independence is often credited to the time-inconsistency literature popularised by Kydland and Prescott (1977) and Barro and Gordon (1983a). Empirical support is widely believed to have been provided by numerous analyses yielding a negative correlation between central bank independence and the level of inflation. In the light of theory and evidence, some authors even claim that central bank independence presents a "free lunch." The *inflationary bias* attributed to the time-inconsistency problem allegedly afflicting "discretionary" monetary arrangements is said to disappear at no apparent cost.

The objective of this paper is to carefully scrutinize the time-inconsistency case for central bank independence. This is done in two steps, starting with the alleged time-inconsistency problem itself, then turning to the suggested links between "rules rather than discretion" and central bank independence as a solution to that problem. It is argued that the alleged time-inconsistency problem is a non-issue in real world monetary policy. Hence there is no time-inconsistency case for central bank independence. This is *not* to deny though that a sound structure of monetary policy may be conducive to an efficient conduct of policy. Rather, a more symmetric approach to central bank independence seems warranted, concentrating on the *form and degree* of central bank independence rather than its apparent maximization to solve the (non-existent) time-inconsistency problem. The real issue is that the alleged time-inconsistency problem led to a biased and dangerously one-sided approach to central bank independence and monetary policy.

The analysis proceeds as follows. Section 2 develops a conceptual framework for analysing central bank independence in a rules and discretion context, while section 3 then revisits the views of Maynard Keynes and Milton Friedman on these issues. Their names not only represent the archetypical opposing poles in rules versus discretion. They also addressed central bank independence in a way which sheds some interesting--and disconcerting--light on modern developments. Section 4 critically reviews the modern time-inconsistency literature widely believed to have settled the case for "rules rather than discretion." The time-inconsistency case for central bank independence is then examined in section 5. Section 6 concludes.

#### CENTRAL BANKING: CONDUCT AND STRUCTURE OF MONETARY POLICY IN A RULES-AND-DISCRETION FRAMEWORK

The time-inconsistency literature has fundamentally changed not just the meaning of the notions of rules and discretion, but also the substance of the age-old debate about their respective merits. Furthermore, the two competing policy-making approaches the re-interpreted notions of rules and discretion have nowadays come to represent are linked (rather: mixed) up with central bank independence in a most peculiar way. Nowadays central bank independence is seen as representing "rules rather than discretion" in monetary policy, and the overall message is that maximizing independence also maximizes the benefits believed to be attainable from it. This section provides some ground-clearing on the key conceptual issues involved.

Among the wide range of activities related to the currency sphere and the financial system that central banks are engaging, it is common practice to concentrate on their monetary policy functions only. This "narrow central bank" approach is not unproblematic as notable interdependencies exist in practice, between monetary policy on the one hand, and central banks' historical role<sup>(1)</sup> as government's banker and their role in safeguarding the financial system's stability and efficiency on the other. Even in former commodity-standard times, convertibility and banking reserve regulations (or conventions) provided a close link between financial and monetary stability, with the central bank as safeguard of the system's centralised pool of reserves. In the old days, though, safeguarding the currency more specifically meant securing some particular value of the currency in terms of specie, rather than in terms of goods in general. Maintaining convertibility into specie and the "rules of the gold-standard game" thereby constrained the conduct of "monetary policy." The sovereign could change the currency standard at its discretion. But the production of the money-commodity itself was outside his immediate control.

Not surprisingly, perhaps, the gold standard (fixed exchange-rate) regime is often seen as the prime example of a policy framework based upon *rules*. Yet, in truth, the very case of the gold standard illustrates well that the common "rules versus discretion" dichotomy in monetary policy

is not as clear-cut as it may seem.<sup>(2)</sup> In fact, it may be more appropriate to view the rules and discretion framework as a "continuum" rather than a strict dichotomy (Fischer 1990). In my view, "the extent of discretion left" in any monetary arrangement is determined, firstly, by the nature and precision of the targeted variable(s), secondly, the immediacy of the link between policy actions and the attainment of the targeted variable(s) and, thirdly, by the transparency of the policy strategy, that is, how well outsiders are informed about monetary policy, its intentions, actions and the

link(s) between them. For, presumably, the whole idea of *restraining discretion by imposing rules* on the policymaker's behaviour is to make policy actions (and, hopefully, economic outcomes) predictable, and to hold the authorities accountable for their performance at the same time.

At one extreme of this three-dimensional framework of a continuum between rules and discretion, the authorities' objective function is both precisely specified as well as directly attainable through policy actions; with the public being fully informed about the policy strategy. In practice, the *zero discretion* extreme seems only conceivable at the operational level of policy conduct, i.e. the management of the central bank's own balance sheet by means of an operating procedure aiming at some directly controllable and fully observable operational target. Milton Friedman's (1960, 1968) famous *k-percent rule* is the prime example here, establishing immediacy of link between actions and the attainment of objectives.

Starting from this extreme, the extent of discretion left is rising, firstly, with a lack of specificity of objective(s), secondly, a lack of immediacy of link between policy actions and the attainment of targeted variable(s) and, thirdly, a lack of transparency of strategy. At the opposite extreme, it is conceivable that policy actions *appear* random. In fact, the rational expectations revolution pushed discretion in this very corner. In the 1970s, Keynesian stabilization policies along discretionary lines became viewed as requiring some randomness in order to be effective at all (i.e. the policy ineffectiveness hypothesis).

By that time, then, Keynes's (1936) original vision of inherent instability of monetary production economies and stabilization policies as a means to stabilize--rather than randomly shock--the economy had travelled a long way indeed. Keynes did not favour Friedman's way of restraining central bank discretion. But a randomizing central bank was truly not what either he or any other Keynesian ever had in mind. As we shall see below, Keynes himself suggested to move away from the *randomizing* extreme via the other two routes available: specifying the central bank's objective(s) and requiring transparent conduct.

What is the meaning of "rules"? At one extreme, a rule may literally fix the authorities' behaviour for some definite or indefinite period. For instance, if the authorities were given the objective of keeping the central bank's balance sheet constant or making it grow according to some pre-specified but unconditional schedule, it would seem appropriate to speak of a *fixed rule*. Again, Friedman's *k-percent rule* is the prime case. More generally, though, rules may include "feed-back" mechanisms that bind the authorities' reactions to (changes in) particular--more or less transparently and precisely pre-specified--variables. Such *feed-back rules* may refer to any of the three levels of the conduct of monetary policy, that is, the policy instrument may be either linked directly to the final target(s) at the goal level, or to particular information variables at the strategy level (with the special case of a *controllable* intermediate target), or to the operational level of policy; either pre-determined or forecasted values of variables may be used. Clearly, if a feed-back rule were fully pre-specified for some definite or indefinite time, the policy rule would constitute a purely *automatic mechanism*; with actual settings at any time being contingent upon future states of the world only. By contrast, to the extent that pre-specification of response to contingencies were only partial, the policy reaction function would incorporate some scope for genuine *flexibility* (based upon judgement).

While the zero discretion extreme corresponds to the fixed rule case, in general, no one-for-one mapping appears possible, between rules on the one hand, and the extent of discretion left on the other. Transparency is the key complication. In one case, policy may *appear* random, even when it follows some purely automatic mechanism; the policy strategy being opaque and not understood. In another case, even a flexible policy response to some unforeseeable event may fail to give rise to a genuine surprise. In this case too any residual surprise, whether policy *is* "experimental" or may just *appear* random, would seem to depend on the transparency of the strategy. The fact that predictability of policy actions need not imply predictability of economic outcomes complicates matters further. Financial market participants have a singular interest in predictability of actions, though, as these directly and decisively affect their portfolio's profitability. And given that policy affects the economy largely via the financial system, surprising financial markets may potentially act as a disturbance to the economy. Achieving desired economic outcomes thus crucially hinges upon successful guidance of financial markets; and policy transparency determines both its controllability and effectiveness. This highlights the dual role of policy strategy, the internal purpose being that of providing a basis for systematic and consistent decision making, the external one being that of communicating intentions and views underlying the decision-making process to the outside world. To the man in the street, though, it seems, it is economic outcomes that matter most. Accordingly, unions, in particular, will be much concerned with prevailing conditions and the record of past outcomes. This is clearly *rational* behaviour given the high degree of inflation persistence (Fuhrer and Moore 1995).

Crucially, all policy rules under discussion today are of the feed-back type including genuine flexibility. And under current practice the policy instrument is the short-term interest rate, while output and inflation respond to interest rate settings with long and variable lags. Significant controversy remains as to the optimal conduct of monetary policy, that is, the appropriate goals of, and ways to implement, monetary policy. Crucially, though, the *conduct* of policy is distinct from the *structure* of monetary policy, that is, the regulation of central banks in general and their relation to the State in monetary policy matters in particular. The notion of central bank *independence* is clearly meant to capture *some* elements of the relation between the central bank and the State, the legislature and executive. At issue is the delegation of *some* aspects of responsibility for monetary policy to an independent agent. In principle, delegation of responsibilities and, hence, independence may refer to any aspect and level of conduct of policy. Central bankers may bear responsibility for choosing objectives, strategies, or instrument settings (i.e. stance), and at varying degrees of *discretion*. In other words, central bank independence may come in very different *forms and degrees*.

To anyone with the view that institutions matter the idea that the structure of monetary policy may affect the efficiency of conduct will have some immediate appeal (and I certainly include myself here). But it does not follow that institutional arrangements that maximize central bank independence should be expected to unambiguously enhance economic efficiency and welfare. For one thing, the quest for a sound monetary structure cannot ignore the potential side-effects that may come with it. These primarily relate to the multi-dimensionality of central banking and the coordination between policymakers when overall economic policy is separated into autonomous decision-making units. In addition, at least when the longer-term viability of a monetary structure in a democracy is at issue, due concern for democratic values seems rather pertinent. It represents an outstanding peculiarity of the time-inconsistency case for central bank independence that these important issues are largely abstracted from.

This paper focusses more narrowly on the efficiency issue though. In this regard, the time-inconsistency literature fostered the fashionable view that a monetary structure which maximizes central bank independence might prove conducive to an efficient conduct of policy. Revisiting the traditional rules vs discretion debate and Keynes and Friedman's views on central bank independence will prove fruitful in preparing us for the serious confusions in the time-inconsistency case for central bank independence.

## **THE TRADITIONAL RULES vs DISCRETION DEBATE: KEYNES AND FRIEDMAN ON CENTRAL BANK INDEPENDENCE**

The traditional rules vs discretion debate broadly followed the Keynesianism-monetarism line of demarcation. In his AEA Presidential address, Modigliani (1977, p. 1) summarized the situation:

Nonmonetarists accept what I regard to be the fundamental practical message of *The General Theory*: that a private enterprise economy using an intangible money *needs* to be stabilized, *can* be stabilized, and therefore should be stabilized by appropriate monetary and fiscal policies. Monetarists by contrast take the view that there is no serious need to stabilize the economy; that even if there were a need, it could not be done, for stabilization policies would be more likely to increase than to decrease instability; and, at least some monetarists would, I believe, go so far as to hold that, even in the unlikely event that stabilization policies could on balance prove beneficial, the government should not be trusted with the necessary power.

It is clear that theoretical, practical and public choice concerns were at issue in the "monetarist controversy." At the purely theoretical level, the issue was whether automatic market mechanisms could be relied on to provide macroeconomic stability. At the practical level, the issue was whether policies could actually be devised that would tend to assist market forces rather than add to the system's instability. The public choice issue was whether granting power to some governmental body may not create incentive problems of its own, thereby proving detrimental, overall, to society's welfare.

The nonmonetarist favour for *discretion* meant decision making which is contingent upon instability in the system, but constrained in the sense of preventing stabilization policy itself from becoming a source of instability. In practice, a systematic and consistent discretionary policy-making process was seen as coming out of the Tinbergen/Theil-style framework. A critical assumption underlying this approach is that selection and incentive structures are in place which make for reasonable competence and integrity in policy making, with policies being directed at society's rather than the policymakers' own welfare. Any idea that discretionary policies would be random and unsystematic runs counter to the rationale of this approach.

Is there any scope for central bank independence in a policy-making approach of the discretion variety? Keynes's (1932) critical response to a policy pamphlet by the Labour Party, demanding democratic interference in monetary policy, is of special interest here. At the time, Labour proposed that the central bank governor should be subject to the general direction of a Cabinet minister, who in turn should be responsible to Parliament for monetary policy.<sup>(3)</sup> This arrangement was unlikely to be conducive to efficiency in conduct of monetary policy, in Keynes's view a "difficult technique" that required expert technicians. He viewed central bank independence as an appropriate means to secure the "utmost decentralisation in the handling of expert controls" (Keynes 1932, JMK 21: 131), and generally regarded the independence and prestige of the Bank of England as assets. But Keynes envisaged a specific *form and degree* of central bank independence, one that was based upon checks and balances which would constrain the technicians' scope for discretion, and establish ultimate--though indirect--democratic control over monetary policy.

As Keynes saw it, Parliament's role was to lay down the basic currency laws, whether gold or some price index should be the standard, for instance. The Government of the day's prerogative then was to determine the "main lines of policy," that is, the ultimate aims or goals of policy, to be pursued by the central bank. In addition, Keynes stressed the role of transparency, emphasizing that the central bank's conduct "should be deliberately exposed to outside criticism." Supposing that these various checks were in their proper place, the balancing principle in Keynes's envisaged form of democratic control reads: "The less direct the democratic control and the more remote the opportunities for parliamentary interference with banking policy the better it will be" (Keynes 1932, JMK, 21: 131).

Expressed in modern terminology, Keynes favoured instrument but not goal independence (DeBelle and Fischer 1995), based on indirect democratic control and accountability. Legislated rules that hindered the operational powers of the central bank were undesirable, in his view. Instead, the technicians' overall scope for discretion would be constrained by goal dependence, stringent transparency requirements, and accountability. The central bank technicians would neither be elected by, nor directly accountable to, the public though. In this arrangement, the line of accountability for performance on the Government's remit would run from the central bank to the Government of the day, which in turn would be accountable to Parliament on overall economic policy performance, and thereby to the electorate. The government's "main lines of policy" would also provide the forum for policy coordination.

Readers who are surprised to learn that Maynard Keynes, known (and scorned) as the mastermind behind macroeconomic interventionism and discretionary demand management, saw some important scope for central bank independence (of a particular *form and degree*), may be even more surprised to learn that Milton Friedman, the arch-liberal who initiated the monetarist counterrevolution, categorically rejected central bank independence. In fact, Friedman's preferred structure of policy was diametrically opposed to granting central bankers *any* independence at all.

In "Should there be an independent monetary authority?," Friedman (1962, p. 178) finds that central bank independence "embodies the very appealing idea that it is essential to prevent monetary policy from being a day-to-day plaything at the mercy of every whim of the current political authorities"; but then concentrates on what he perceives to be the flip-side of the matter. Politically, he rejects the concentration of vast powers "in a body free from any kind of direct, effective political control" (Friedman 1962, p. 188). Economically, his key concerns are, first, the dispersal of responsibilities for monetary and fiscal policies and the lack of overall accountability this would involve, second, that the rule of men rather than law makes policy extraordinarily dependent upon *personalities*, risking "accidents of personality," and, third, that independent central bankers might be too susceptible to the "point of view of bankers." Rather than merely "insulating" money from politicians, he favours the idea of "neutralizing" the (unelected) central bank politicians as well. This is succinctly expressed in "The case for a monetary rule":

An independent Fed may at times be too insulated from political pressures--as it was in the early 1930s--and yet at other times unduly affected by political pressures. ... A monetary rule would insulate monetary policy both from the arbitrary power of a small group of men not subject to control by the electorate and from the short-run pressures of partisan politics (Friedman 1972, p. 227).

From Friedman's viewpoint, "neutralizing" the central bank offers a low-risk strategy: not many, if any, chances of successful stabilization would be foregone, while losses due to de-stabilizing attempts at unwarranted stabilization policies would be insured against. Stabilization policies are not only unnecessary, on his view, but doomed to failure anyway. For one thing, we know too little about the economy, about those long and variable lags in particular. And then, of course, there is also the public choice issue about policymakers' integrity. Essentially, Friedman's (1960, 1968) *k-percent rule*, i.e. a *fixed* growth rate of "money," is an attempt at virtually "tying central bankers' hands in chains." Crucially, the rule is to be implemented *directly* at the operational level. His *fixed (base) rule* thus yields a maximum of transparency of strategy and accountability for actions, leaving the authorities with *zero discretion*. Protection from monetary abuse requires *taking away discretion* from the authorities, but central bank independence amounts to very much the opposite; in fact, such *partial* protection may even increase society's exposure to risks located at the independent central bank. For Friedman independence is essentially a synonym for largely unrestricted discretionary scope; shielded, moreover, from any effective political control.<sup>(4)</sup>

The main differences in rationale underlying the respective positions on central bank independence of the arch-opponents in the traditional rules vs discretion debate may now be summarized. From Keynes's perspective, the core idea of discretion is to make policy conditional upon changing circumstances, as expressed by means of a policy reaction function. Friedman's main point is that such a "fine-tuning approach" would risk becoming de-stabilizing, thereby causing policy uncertainty. Monetarism *à la* Friedman has a *fixed* rule laid down for the central bank at its core, aiming at its "neutralization." While Keynes envisioned independent central bank *technicians* whose discretion was constrained by checks and balances, Friedman preferred to make 100 percent sure that central bankers were really nothing but a *pure technique*. To Friedman central bank independence may protect money from politicians but not from central bank politicians: to him central bank independence represents "discretion rather than rules."

Furthermore, from Keynes's perspective, *successful* discretion, that is, effective stabilization policies, would tend to reduce overall uncertainty, thereby reinforcing the stabilising force of discretion and the stability of the system. From Friedman's perspective, by contrast, denying the possibility of successful discretion, the authorities' discretionary powers would - by themselves - represent a source of uncertainty. Thus, precommitment to steady monetary growth would - in itself - promote public confidence, and a monetary rule was *not* the same as "the discretionary adoption of precisely the same policy [actions] on a series of separate occasions" (Friedman 1962, p. 192; cf. also Friedman 1972, p. 226-7).

Even if the particular rule Friedman proposed were impracticable for institutional or other reasons (Goodhart 1994b), this does not invalidate the essence of his proposal, its rationale for neutralizing the central bank. Indeed, especially for those who accept the stability postulate, his core policy message should be as valid as ever. Crucially, *neutralizing* money features an important element of symmetry, as neither politicians nor central bankers must be allowed to follow their own agenda. Effectively, then, Friedman favoured an extreme set of checks and balances to protect money from *anyone*'s discretion, *by law*. This is even more evident from Friedman's (1984a) later proposal to effectively "freeze" the monetary base, which amounts to locking up the central bank and throwing away the key.<sup>(5)</sup>

The analysis now moves on to the "restatement" of the rules vs discretion debate in the context of the rational expectations revolution and time-inconsistency theme. Beware, though, monetary theory has been recast and monetary history dramatically re-written in the meantime. Keynes (1936) argued that *in the long run* prices would depend on the trend of the "cost unit" in general, and unit-labour costs in particular.<sup>(6)</sup> By contrast, Friedman (1963) argued that any observed price level trend would be due to (a bias in) the *conduct* of monetary policy, "*inflation* [being] *always and everywhere a monetary phenomenon*." The latter's excess-demand explanation of inflation attained hegemony in the profession at exactly the time when dramatic cost pressures combined with excess supply became the order of the day in the 1970s; and as concern about inflation crept up the list of public priorities together with actual inflation experiences. The term "Volcker shock" captures well the general perception that a dramatic shift in the *conduct* of U.S. monetary policy occurred at the end of the 1970's. And some authors argue that the rational expectations revolution encouraged this shift in conduct by promising that the real consequences of transparent disinflationary policies would be limited or even non-existent (De Long 1997, Taylor 1997).<sup>(7)</sup>

## TIME INCONSISTENCY AND "RULES RATHER THAN DISCRETION"

Note therefore right from the start that the new explanation of any upward trend in prices puts the blame not on the conduct, but on the *structure* of monetary policy, interpreting the observed inflation bias as an equilibrium phenomenon due to an alleged time inconsistency of optimal plans. The new theory of inflation is recast in a Lucas-type natural rate world of money neutrality, rational expectations, and policy ineffectiveness. In such a world, any *systematic* monetary policy (i.e. following some transparent reaction function) fails to have real effects. Only *surprises* are effective. A relation between output and inflation of the surprise supply function type is assumed to describe this world:

$$(1) \quad u = u^* + b(\pi - \pi^e) +$$

where  $u$ ,  $u^*$ ,  $\pi$ ,  $\pi^e$ , stand for actual and natural rate unemployment, actual and expected inflation, and i.i.d. shocks with zero mean, respectively, and  $b$  is the slope parameter of the (short-run) Phillips curve.

There are two players, a policymaker and the public (rather, *labour*-market participants), playing a one-shot game. The script says that the public moves first, forming *forward-looking* inflation expectations. Then a shock occurs, which is observed by the policymaker who moves second by setting actual inflation. To illustrate the time-inconsistency issue one may, for the time being, ignore the shock term, until explicitly referred to below. For the crucial point is the timing protocol: labour-market participants stipulate wage contracts *before* the policymaker decides about the instrument setting, i.e. the rate of inflation.

In choosing inflation, the policymaker is envisioned to minimize a loss-function, typically taken to be quadratic in its two arguments, deviations from inflation and output (or, unemployment) target values:

$$(2) \quad L = a\pi + (u - ku^*)^2; a > 0, k < 1$$

The condition  $a > 0$  captures that the policymaker dislikes inflation, in principle, providing a measure of the relative weight attached to the policy goals. The assumption  $k < 1$  is key to the outcome of this story. On the one hand, the idea here is that this natural rate world is not quite perfect, as there are some "distortions." As a result, the Phillips-curve is vertical at "too high" a natural rate. On the other hand, the policymaker's (inflation-jobs trade-off) preferences, which are identical to those of the public, are assumed to be such that the benevolent policymaker is afflicted by some peculiar temptation to achieve a level of unemployment *below* the (unnaturally high) natural rate. Within this model set-up the overambitious employment target underlying the postulated goal conflict is, in principle, attainable by riding up a short-run Phillips-curve. Thus, the policymaker faces both the temptation, and also has the means to (attempt to) quickly ride up a short-run Phillips-curve since, to repeat, the policymaker is in control of the inflation-surprise instrument.

The problem is that the benevolent policymaker is facing labour market participants who are clever enough to fully understand the game that is being played. By assumption, labour market participants are capable of seeing not only through the *veil of money*, but also through the *veil of monetary structure*. They discern that the optimal zero inflation policy will be "time-inconsistent," i.e. no longer optimal after wage contracts are settled. Labour market participants thus expect positive inflation. In equilibrium, there will be positive inflation, but no inflation surprise and no riding up a short-run Phillips curve. The system is inevitably stuck at its (distorted) natural rate level of unemployment. But a sub-optimal inflation bias allegedly arises nevertheless, with expected and actual inflation matching at the equilibrium bias level where the marginal benefit from additional output and the marginal cost of further inflation are equalised.



At least this is the inevitable outcome, it is claimed, if the policymaker has the *potential* to surprise at hand, quickly translated as representing "discretion." By contrast, if the policymaker precommits to a "rule," that is, foregoes the *option to re-optimize* by "tying its hands," the system, while still ending up at the (distorted) natural rate level, would not suffer the extra burden of an inflationary bias. The case for "rules rather than discretion" was then finally settled, or so it may have seemed.

A few things are striking about this peculiar vision of the economic process, with an inflationary bias believed to be inherent in any monetary structure incorporating "discretion." For one thing, the meaning of the notions of "rule" and "discretion" has changed fundamentally, which should not escape the attention and will thus be briefly discussed here. Clearly, if the option to re-optimize were the true problem, then only a simple rule, easy to implement and observe but difficult to change, would do at all.

And this is what Kydland and Prescott (1977) saw as the upshot of their seminal contribution.<sup>(8)</sup> Yet, when Barro and Gordon (1983a) applied the time-inconsistency idea more specifically to monetary policy, they concentrated on the perceived problem that a binding precommitment to any "rule," in the sense of a "once-and-for-all choice" of any particular reaction function, may be difficult to arrange in practice. In their view, the policymaker would always face the incentive to fool the public; that is, renege on the rule, if that were possible. This concern amounted to a shift in focus and, in a way, added a new dimension to the issue, namely the so-called "credibility problem." In view of this perceived credibility problem, any "rule" that can be reneged upon will lack credibility and, hence, fail to solve the time-inconsistency problem. Barro and Gordon (1983a) took it for granted that any systematic policy would be principally ineffective in a (Lucas-type) natural rate world. Policy "activism" thus yields no real benefits whatever. The lack of a commitment device for credibly abstaining from re-optimization is postulated to pose a fundamental problem though.

It was Rogoff (1985) who then re-introduced a proper rationale and possibility for *effective* stabilization policies, by postulating that shocks occurred after wage contracts are stipulated but before the policymaker sets inflation.<sup>(9)</sup> Thus, in stochastic versions of the game sketched above contingent rules *are* of real benefit, as contingent rules, once again, may stabilize shocks hitting the system. At any rate, a lack of *flexibility* to respond to shocks--due to precommitment to a fixed rule or automatic mechanism--is seen as giving rise to a "stabilization problem." A trade-off between commitment and flexibility thus emerges.

The rediscovery of benefits of flexibility, when stabilizing the economy is an issue, probably explains why virtually the whole of today's literature on monetary policy "rules" concentrates on *contingent* rules, featuring feedback mechanisms and variables of one type or another (Taylor 1999). Given that discretion was never meant to be anything else but policy guided by a sound but (in the real world imperfect) reaction function in the first place, a peculiar change in terminology occurred here. Essentially, when the usefulness of discretion was rediscovered, the notion of rule got the credit. The notion of rule was simply re-defined, with the earlier (mark I) notion of discretion being transmogrified into the current (mark II) meaning of rule. This not only renders bogus the terminology, but also the substance of rules vs discretion mark I. Recall that for Friedman discretion stood for feedback and fine-tuning, an approach he saw as risking de-stabilization. Friedman's case for *noncontingent* rules, based on the presupposition about policymakers as either inept and/or ill-intentioned human beings (Buiter 1981), no longer seems an issue. Modern policymakers are by assumption both benevolent and perfectly competent, in full control of the inflation-surprise instrument. In short, the notion of rule assimilated the chances of discretion Keynes was keen to emphasise on the one hand, while completely ignoring the risks stressed by Friedman on the other.

Obviously, then, the notion of discretion too had to be re-defined. Proponents of policy "rules" typically fail to pin down the substance of the new meaning of "discretion" though. For instance, Taylor (1993), after asserting that rules need not be narrowly interpreted as entailing fixed instrument settings, and should even be broadened beyond mechanical formulas to include judgement, argues that any "systematic policy" in principle qualifies as rule-based. Given his preferred definition of "systematic" as meaning "methodological, according to plan, and not casually or at random," this would seem to imply that discretion basically stands for random and thoughtless ad hocery. McCallum (1997a, p. 3) is closer to the (time-inconsistency) point: „Roughly speaking, discretion implies period-by-period reoptimization on the part of the monetary authority whereas a rule calls for period-by period *implementation* of a contingency formula that has been selected to be generally applicable for an indefinitely large number of decision periods."

At first sight, this definition appears to give a less humiliating impression of discretion, the essence of which appears to be a failure to precommit to systematically abstain from re-optimization. Contingency formulas would have to be *automatic mechanisms* only, and may not incorporate *flexibility*, as flexibility is a form of re-optimization in the light of information that could not have been incorporated in an automatic automatism. So do not overlook the peculiar motive for re-optimization of the discretionary type: the model set-up excludes any surprise equilibrium by assumption, but the stylized discretionary policymaker tries to attain it nevertheless. Essentially, in order to complement genuine discretion, i.e. the optimally flexible policy (re-defined as "rule" or commitment), a discretionary strawman has been set up. In effect, the time-inconsistency literature cartoons discretion as a fully transparent crusade at "chasing the moon."<sup>(10)</sup>

But much more is involved here than mere unfortunate terminology and shadow boxing. The internal logic of the set-up displays the following paradox. At one level, it assumes the utmost degree of rationality of both players. The public fully understands both the time-inconsistency and credibility problems faced by the policymaker with flexibility, and acts accordingly. The policymaker, in turn, seems to act perfectly rationally too by choosing to inflate, apparently representing the optimal response available to him within this rational expectations setting; with the inflationary bias emerging as a Nash equilibrium. At another level though, it is hard to accept that any rational policymaker acting in a rational expectations framework might not decide to stop chasing the moon. In fact, why should anyone rationally aim at maximizing an objective function that focusses on the impossible in the first place? On the one hand, one is asked to imagine a policymaker who is benevolent, competent, and omniscient, as well as a perfect image of society's values. On the other hand, this sad creature seems incapable of accepting the natural inevitable, i.e. the natural rate. If only the natural rate hypothesis were accepted, we would be living in a (near) perfect world, as the time-inconsistency problem would vanish immediately.

McCallum (1995, 1997b) seems to recognize this peculiar tension (or, bias of irrationality) concerning the policymaker's presumed behaviour within a rational expectations set-up (cf. also Englander 1991). But he avoids addressing this paradox when he implies that all the policymaker must do is simply to recognise the futility of seeking to exploit a non-existent trade off and refrain from doing so. In fact, McCallum effectively assumes away the whole problem when he asserts that "an unconstrained but independent" central bank could simply ignore existing expectations and pursue a zero-inflation policy.<sup>(11)</sup> But before moving on this apparent and rather fashionable solution to the alleged time-inconsistency problem, let me emphasize two crucial points. One concerns the postulated behaviour of the policymaker aiming at an unemployment rate below the natural rate, together with the postulated preferences for accepting more inflation in exchange for pushing employment beyond full employment. From a Keynesian perspective such behaviour reflects *outright irrationality*: pushing employment beyond full employment when inflation is at the

optimal rate implies that disinflation will have to follow - at a cost.<sup>(12)</sup>

Another concern is the existence of competing explanations of the observed inflationary bias. I must stress that the time-inconsistency explanation is *not* at all equivalent to older Keynesian or monetarist explanations, it is wholly an alternative one. *Substantially* different visions of the functioning of the economy are involved, featuring alternative sources and explanations of the post-WWII stylized fact of an upward trend in prices in general, and the acceleration of inflation in the late 1960s and 1970s in particular.<sup>(13)</sup> While a Keynesian explanation would focus on the determination of wage and productivity trends, a monetarist one would emphasize the role of excessive money growth as the root cause of excess demand. Note that even Friedman's preferred monetary structure might lead to an inflationary bias if the legislated rule for policy conduct was settled for too high a rate of money growth. Note also that the Keynesian view would neither deny the possibility that excess demand may cause inflation nor that the conduct of monetary policy may be afflicted by an inflationary bias of the "too little, too late" variety (cf. Goodhart 1994b).

By contrast, the time-inconsistency vision features a truly *perfect* conduct of policy, with the whole problem only arising if the structure of policy incorporates "discretion" in the peculiar time-inconsistency sense. It is the structure, rather than the conduct, of monetary policy which is all that matters, or so it seems. Sargent (1999) is therefore correct to point out that, given the initial precommitment devices in the form of the gold standard and the Bretton Woods system, the change in the structure of monetary policy in the early 1970s may explain the acceleration of inflation over that decade, but cannot explain the Volcker shock and disinflation of the 1980s and 1990s. In fact, the key parameters in the time-inconsistency explanation,  $a$  ("costs" of inflation),  $b$  (output gain) and  $k$  (distortion), only explain a constant equilibrium inflation bias but no sustained acceleration or deceleration of inflation (unless either the values of these parameters themselves changed or a renewed regime shift occurred that solved the time-inconsistency problem).

It is thus noteworthy that in their re-writing of U.S. monetary history Barro and Gordon (1983a) did not just stick to what they understood as the key to the time-inconsistency theme, namely the credibility problem. They also postulated that autonomous shocks induced persistent changes in the natural rate. As a result, the "positive theory of monetary policy [and inflation]" fudges the time-inconsistency problem, as it actually features a joint hypothesis. Solving the policymaker's optimization problem, as represented by equations (1) and (2) above, yields:

$$(3) \quad \pi = (a + b^2)^{-1} b [(k - 1) u^* + b \pi^e]$$

And, allegedly, in a "discretionary" policy regime the public correctly expects:

$$(4) \quad \pi = \pi^e = a^{-1} b (k - 1) u^*$$

Inflation is not only the higher the larger the parameter  $b$  and the smaller  $a$  and  $k$ , it is also positively related to the level of the natural rate.<sup>(14)</sup>

As a result, the rise in U.S. inflation over the 1970s may, in principle, be attributable either to the emergence of a discretionary monetary structure and, hence, the time-inconsistency problem proper (Sargent 1999), or a series of persistent negative shocks to the natural rate, or a mixture of both. For instance, Ireland's (1999) reading of U.S. inflation history puts all the emphasis on the *time-varying* natural rate:

According to the Barro-Gordon model, the inflation of the 1960s and 1970s has as its proximate cause a string of bad luck, in the form of a series of negative and persistent supply-side shocks that worked to increase the natural rate of unemployment. Similarly, from the viewpoint of this model, the disinflation of the 1980s and 1990s represents the product of good luck, in the form of a series of positive and persistent supply-side shocks that have worked to decrease the natural rate (Ireland 1999, p. 290).

If a *time-varying* natural rate was the sole driving mechanism behind the inflation process, as Ireland claims, *changes* in the degree of commitment played no separate role at all. Nor did any changes in the conduct of policy matter in this peculiar time-inconsistency-inspired reading of U.S. inflation history. The role of monetary policy was a purely passive one, similar to real business cycle theories; but much in contrast to Lucas's money misperception theory which underlies the time-inconsistency theme.

However, the mere fact that the so-called Volcker shock occurred at the very time when another series of negative supply shocks raised both unemployment and inflation still further from their 1970s record levels represents a devastating blow to the credibility of Ireland's argument that the disinflation of the 1980s and 1990s was due not to that deliberate shift in the conduct of policy, but to positive supply shocks. And so does the fact that the Volcker shock was followed by the most severe recession in post-WWII U.S. history. Needless to say, these facts bode well with the shared Keynesian and monetarist position that disinflation by monetary restriction would be costly in real terms. By contrast, the time-inconsistency explanation of any inflationary bias stresses the role of the *structure* rather than the *conduct* of monetary policy. Seen in this light, it seems at least logical that a solution to the time-inconsistency problem should focus on the monetary structure, including, perhaps, some potential role for central bank independence.

## HOW TO GET FROM "RULES RATHER THAN DISCRETION" TO CENTRAL BANK INDEPENDENCE

It is not at all obvious how "rules rather than discretion" may be turned into a case for rather than against central bank independence (turning Milton Friedman's argument upside down). The literature features the following arguments widely held to provide the "missing link." First, the issue of time horizon: the independence device may be seen as a means of insulating monetary policy from *myopic* political pressures.

Periodic democratic elections imply a time horizon for policy making which is *variable* and may turn out to be fairly *short* on critical occasions. But the same may hold when the independent central banker's contract is up for renewal. Thus, if short-termism in policy making is the risk, one issue is whether terms of office of the government and the central banker coincide, or overlap only partly. In case of decision making by council, a related issue is whether contracts of council members are staggered, or come up for renewal all at the same time. In general, most continuance in policy making, and least dependence on particular individuals and the peculiar influences they are exposed to, would seem to occur if an *esprit de corps* developed, the central bank's *infinite* life-span becoming the policy-making horizon.

Multi-period extensions with infinite horizon of the above one-shot game may be interpreted in this way. Barro and Gordon (1983b) championed *credibility by reputation building*. A solution to the lack of credibility of precommitment--to counter the alleged time-inconsistency problem--would be possible if reputation losses counterbalanced the policymaker's temptation to reach out for short-term gains. Given politicians' short time-horizon (and high discount rates) though, there would be little counterweight to succumbing to the surprise temptation, and little incentive to invest in building up a reputation stock in the first place. An independent central bank with an *esprit de corps* appears ideal from this perspective.

A second solution to the time-inconsistency problem, due to Rogoff (1985), is to appoint a "conservative" central banker. In terms of the standard model sketched above, this solution refers to the  $a$ -term in the policymaker's loss function, i.e. the (relative) weight attached to deviations from the conflicting inflation and output targets. The idea is that by appointing an independent central banker who does *not* share society's preferences, but places a relatively higher loss on inflation deviations, such socially abnormal predilections being properly dubbed "conservative," the inflationary bias would be alleviated.

Note here that such conservativeness does *not* come as a free lunch. Alleviating the inflationary bias in this way comes at the price of increased output variability.<sup>(15)</sup> Given that the deadweight loss imposed on the economy due to a less flexible response to shocks is larger for extreme disturbances, Lohmann (1992) proposes an escape clause that allows the policymaker to overrule the conservative central banker, at a cost. Rogoff's *fully* independent central banker is thereby *partially* brought back under political control (Eijffinger and Hoebrechts 1998). Analytically speaking, an additive overrule-cost term appears in the loss function, inducing the conservative central banker to implement a nonlinear policy rule. In extreme situations the degree of conservativeness is dampened to such an extent that overrule is not triggered.

Yet, even a Lohmann-type escape clause would not eliminate, merely alleviate, the deadweight loss caused by sub-optimal output stabilization. By contrast, another approach is believed to dissipate fully the trade-off between flexibility and commitment featuring in Rogoff's approach. Alesina and Tabellini (1993) and Walsh (1995a) champion the idea of designing an optimal incentive scheme for the monetary agent which solves the time-inconsistency problem on the one hand, while full flexibility is retained on the other.

Unfortunately, from a time-inconsistency perspective, this solution seems too good to be true. For instance, Blinder (1998) rejects this approach outright on the ground that the potential principal (legislature or government) may be lacking the incentive to enforce the contract. And McCallum (1995, 1997a) argues that delegation by principal-agent contract fails to eliminate, but merely relocates the time-inconsistency problem. These criticisms seem perfectly valid as far as the alleged time-inconsistency problem goes.

The point is, however, that the time-inconsistency problem which allegedly causes an inflationary bias if the discretionary strawman is not locked up does not represent any real problem in monetary policy making anyway. Put bluntly, the time-inconsistency vision of central banking and the economic process may be wholly out of touch with the realities of this world. It is therefore lacking any credibility.

While abstraction can hardly be done without in any form of theorizing. The question is whether a model merely abstracts from some details that are of little relevance to the phenomena under investigation, or from essentials. Unfortunately the peculiar kind of reductionist approach to central banking featuring in the time-inconsistency literature abstracts from essentials - with the result of concentrating on a non-issue. By reductionism I do not just mean that a "narrow central bank" view abstracts from those close links between monetary stability and other central bank functions<sup>(16)</sup>, as well as from the coordination issue. A rather fatal shortcoming is that the focus on monetary structure has even led to a complete "abstraction" from policy conduct. As a consequence of this monetary reductionism, the infamous *long and variable lags* of monetary policy, which Milton Friedman was so much worried about, are "assumed away" completely.

Goodhart and Huang (1995, 1998) argue convincingly that the standard assumptions made about information and lag structures in time-inconsistency models are in conflict with U.S. and UK facts. In Germany too wage contracts typically have a one-year duration (German Council of Economic Experts 1999). Clearly, not even the Bundesbank could possibly jump this gun: the transmission of surprise inflation takes about twice as long. Labour-market participants thus know that there is plenty of time to adjust if the policymaker should ever be so foolish to attempt to spring a surprise inflation upon them. The discretionary policymaker, in turn, whether independent or not, should understand not just the futility of such attempts, but also that the optimal response available is to refrain from such irrational behaviour in the first place.

In a rational expectations framework that takes proper account of lags, then, the time-inconsistency issue is a non-starter. Real world central bankers simply do not possess the imaginary powers necessary to transcend the long and variable lags in monetary policy transmission and spring inflation surprises upon labour-market participants. Policymakers' postulated behaviour is thus not only irrational, their alleged consequences are also infeasible. By implication, the time-inconsistency literature offers a pseudo-solution to a non-existent problem, at best.

Things may be even worse than that, as the time-inconsistency theme has encouraged a biased and dangerously one-sided approach to central bank independence (so much so that it seems appropriate to describe this popular excitement as a "fashion"). In what follows I will indicate the kind of potential dangers that a more balanced and symmetric approach to central bank independence would not overlook. Some of these dangers may even be deduced from the time-inconsistency literature itself, once it is stripped of the time-inconsistency fiction featuring in it so very prominently.

Consider first the reputation-building central bank independence variety, which endorses a peculiar reductionist approach to reputation. Barro and Gordon (1983b) envision the reputation-keen central banker as subscribing to a "rule" which equalises inflation expectations and actualisations in each period. In their specific model, reputation may (partly) do the trick and support the desired "commitment solution." Yet, in general, given the well-known existence of multiple equilibria in games of this type, one is only justified in replacing pessimism with agnosticism (Sargent 1999). Outcomes may actually be worse than in the simple one-shot case. The existence of multiple equilibria is not the only problem, there are multiple outcome paths too; which may have rather different implications for economic welfare. Failure to focus independent central bankers on an objective function that truly incorporates society's values, while establishing effective accountability procedures, appears risky from this perspective. If central bankers enjoy the discretion to decide for themselves, they may well follow their own prestige-seeking approach to reputation building.<sup>(17)</sup>

In this respect, there is an unwarranted tendency in the literature to treat time inconsistency as a synonym for short-termism. This may not be surprising when the time inconsistency of the optimal long-run policy is seen as stemming from an incentive to deviate from it in the short run. Yet, it seems rather futile to discuss the notion of *time* in a one-shot-game setting. And it is in this inherently timeless construct that the time-inconsistency problem is believed to arise. But even when turning to multi-period games, the point about periodic elections is not just that politicians' time horizon may be *short* on critical occasions (as a government gambling for its survival may discount highly the costs of subsequently disinflation which a rational discretionary policymaker would *not* overlook). More generally, the length of the time horizon *varies*, progressively shortening as the next election approaches. And the length of the punishment interval on which the credibility-by-reputation building approach critically hinges thus varies too. If short termism were the true issue, then we would expect to see not an inflationary bias, but a "political business cycle."<sup>(18)</sup>

The point is that there may be more than the one risk of myopic behaviour. There is also a risk of long-termism: the discount rate of independent central bankers with infinite horizon and socially abnormal preferences might lie significantly below the (social) discount rate of normal mortals. Forms of central bank independence that fail to restrain central bankers' discretion in this regard are risky, as the optimal time horizon probably falls

well short of infinity. Equally, there are clear risks involved with long contracts for central bankers, unless one can always be sure about central bankers' preferences, competence and integrity i.e. safely assume away the potential for "accidents of personality."<sup>(19)</sup> (Ironically, independent central bankers are notorious for expressing strong preferences for flexible labour markets.)

A notable implication of Rogoff's conservative central banker approach concerning, what is usually seen as, the trade-off between price level and output stabilisation is related to the critical issue in reputation building and time horizon: independent central banker may actually be "too" conservative. Crucially, the "inflation-nutter risk" exists whether or not central bank independence is a free lunch with respect to the alleged time-inconsistency problem; its actualisation represents a genuine accident of personality. If the time-inconsistency problem were non-existent, conservatism would be sub-optimal in the first place.

This vital issue is brought to head by the incentive contract approach, highlighting the dangers involved with central bankers whose preferences do *not* match those of society at large. It is both far more crucial and intricate to design an optimal contract for a central banker with socially abnormal preferences. The point about an *instrument*-independent central banker's incentive contract is to assure that preferences coincide, by specifying goals precisely and accountability on performance. This issue has got nothing to do with the alleged time-inconsistency problem as such, but everything with checks and balances.

The ultimate problem with the time-inconsistency case for central bank independence is that it seems to advise that maximizing independence is the right way to go. This is most apparent in the empirical literature on the issue, invariably featuring tests of the form "the more independence, the better." And the measures of independence constructed there invariably show some single-dimensional scaling of degree of independence based on that presumption.<sup>(20)</sup> Usually, the Bundesbank emerges as the world champion of independent central banks, and given that Germany's inflation record is widely seen as a great monetary policy success, this is then quickly seen as confirming the wisdom of the whole case. It is neither considered worrisome that the Bundesbank's degree of goal independence (specified merely as that of "safeguarding the currency") amounted to maximum discretion in this regard, nor that there were no other incentives in place for self-restraint and transparent conduct. Clearly, goal independence represents a barrier to effective policy coordination and largely precludes democratic accountability as well. But these issues are of no concern in a literature that presumes that independent central bankers can do no wrong, as long as they are sufficiently concerned about their own credibility and reputation. Goal independence is even seen as an advantage and precondition for having central bankers with socially abnormal preferences in charge of maximizing our welfare--at their whim. Yet, the idea that we should deliberately choose central bankers who do *not* share society's preferences, grant them long contracts and maximum discretion to pursue their own preferred goals is not a blueprint for good policy making, but a recipe for disaster. A more balanced perspective on central bank independence is urgently warranted.

This critique is not meant to imply that credibility and reputation may be altogether unimportant issues in monetary policy. Quite the opposite. Keynes (1936) emphasized that central bankers' power to guide financial markets, i.e. the effectiveness of monetary control, depends on the credibility of their actions and their reputation for competence. He feared that central bankers might lose effective control, for instance, over steering longer-term interest rates when financial market participants come to view monetary policy as time-inconsistent (Bibow 2000C). Most peculiarly, this central communication problem of monetary policy is completely abstracted from in the time-inconsistency literature.<sup>(21)</sup>

Instead, the sole focus is on labour markets. Clearly, credibility and reputation *are* important in this sphere too, albeit in a very different way. For the direction of causality underlying the inflation process may run in reverse from the time-inconsistency story. It may be wage pressures, accommodated by monetary policy to *some* degree, which represent the root cause of the inflationary bias. Not only do those estimates that detect most validity for the Phillips curve generally put inflation on the left side (Staiger, Stock and Watson 1997). The alternative (Keynesian) perspective is also not afflicted by any of the implausibilities seen in the (New Classical) time-inconsistency literature discussed above. Central bank independence emerges here as a kind of "conservative" incomes-policy device: posing an institutionalised threat to retaliate if wage restraint is not practised. As soon as this were acknowledged, though, issues of political economy and democracy could no longer be dissipated under the "free lunch" promise of time inconsistency (which is rather strange anyway given that excessive wage pressures and high-interest policies have both rather clear-cut asymmetrical distributional implications and output losses due to disinflation tend to be costly to society at large).<sup>(22)</sup> As an incomes-policy device, central bank independence would need to be compared with alternative ones, both in terms of economic efficiency and democratic legitimacy; and on no presumption that maximizing independence is necessarily optimal.<sup>(23)</sup>

Instead, it seems rather pertinent to make sure that unelected monetary technicians have no discretion in these matters at all. Labour market participants do not have to fear that a surprise inflation may be deliberately sprung upon them. But they may be uncertain about the degree of wage inflation that may be accommodated by the monetary policymaker; or provoke a disinflationary retaliation. Correspondingly, they may be uncertain whether wage restraint would be honoured by monetary easing; or simply be seen by central bankers as a welcome opportunity to reduce inflation further (if this maximizes their own prestige). One key issue here concerns wage bargaining institutions, the degree of coordination between labour market participants in particular. Another key issue concerns coordination between wage bargaining and monetary policy, the extent to which any particular union may internalize the inflation externalities of its wage claims on one side, and the effectiveness of the policymaker's signalling strategy as regards its inflation tolerance level on the other.<sup>(24)</sup> Importantly, a central bank's degree of strategy independence might stand in the way of predictability of policy in both directions, i.e. symmetry of conduct.

Note here that the policymaker's lack of *immediate* control over inflation again emerges as the hub of the matter: rising unit-labour costs tend to translate into rising inflation *before* tight money may crunch the momentum (and the economy) by causing a recession. Interestingly, this interpretation even offers an explanation for, what may well be, the most critical time-inconsistency paradox: Germany's peculiar combination of record low inflation, its legendary independent central bank, and exceptionally high sacrifice ratio (Fischer 1994, Fischer and Debelle 1995, Jordan 1997, 1998, Posen 1998). This trio bodes ill for the idea that central bank independence *cum* reputation for extreme inflation aversity goes hand in hand with credibility *cum* costless disinflation. But it bodes well with the view that reputation building may be extremely costly. Apparently, the Bundesbank's signals of its willingness to retaliate were not always credible. Apparently, then, the reputation of the world's most independent central bank was built by deeds rather than words, as its resolve had to be proved over and over again - and each time at a severe cost. Finally, it seems rather strange that the Bundesbank appears to have entertained a clear preference for operating in an environment of unemployment significantly *above* the natural rate (Bibow 2000b), when it is widely held to have been the world's foremost free-lunch solution to an alleged problem based on the presumption that policymakers notoriously aim at an unemployment rate *below* the natural rate. Maximum discretion might encourage asymmetry in conduct, it seems, particularly if this maximizes central bankers' prestige.

## CONCLUSIONS

The analysis expounded here denies the time-inconsistency case for central bank independence. To begin with, the peculiar and non-sensical



re-definition of the notions of rules and discretion completely confuses the substance of rules versus discretion, a debate that concerned the necessity and feasibility of stabilization policies. In this regard, Keynes is ascendant over both Friedman and Lucas. Today, the theory and practice of monetary policy making generally feature *discretion* in the sense that policy is *contingent* on shocks and aimed at *actively* steering the economy towards equilibrium (once scorned as "fine tuning").<sup>(25)</sup> Re-defining discretionary policy making as "rule-based," the time-inconsistency literature cartoons a (pseudo-) "discretionary" policymaker who behaves irrationally, being equipped though with imaginary powers unavailable to real-world central bankers. In this world, and in any sound form of theorizing about this world, central banks control short-term interest rates, linked by some reaction function to the goals they are supposed to achieve. Policymakers cannot possibly transcend the long and variable lags of monetary policy transmission and jump inflation surprises on labour-market participants. Hence neither democratically-elected politicians nor any other even vaguely intelligent and rational economic agent should be postulated to act on such thoroughly unsound premises. Not surprisingly, then, the explanatory power of time inconsistency as a positive theory of monetary policy and inflation lacks any credibility.

Importantly, this is *not* to deny that a sound structure of monetary policy may well be conducive to an efficient conduct of policy. The point is that maximizing central bank independence, and perhaps even deliberately choosing central bankers who do *not* share society's preferences, is most unlikely to prove efficiency and welfare enhancing. Instead, at least in democracies, it seems far more promising to think about *forms and degrees* of central bank independence that establish incentive structures which focus the central bankers' expertise on *exactly* those goals which society, through their elected representatives, lay down for them. Making it transparently clear what these goals *exactly* <sup>(26)</sup> are in any situation and who is in charge of laying them down would appear to be part of a sound monetary structure.

It is much less of a surprise than it may at first appear that Maynard Keynes favoured such a *democratic* version of an instrument-independent central bank. If technical discretion needs to be exercised in managing the economy, delegating the technical task to monetary experts seems fitting. Clearly, the efficiency argument does not at all apply to the choice of policy goals and the value judgements that involves; and discretion in this regard is inherently lacking in any democratic legitimacy too.

Equally unsurprising, Milton Friedman categorically rejected central bank independence of any form and degree. In fact, if discretion in monetary policy-making is seen as the source of the whole problem, it is not clear why maximizing discretion should alleviate that problem. Friedman therefore proposed a legislated (or even constitutional) rule for monetary policy that was meant to anchor the price level and--effectively--delegate interest rate decisions to the markets. If elected politicians cannot be trusted with money, unelected and uncontrolled central bankers should not either: "money is too important to be left to the central bankers" (Friedman 1962, p. 173; cf. 1992, p. 261). But if markets are trusted to work efficiently and if the economic system is regarded as inherently stable, Friedman's approach of rule by law and the markets is consistent in terms of both economic efficiency and democratic legitimacy.

Apart from being in conflict with democratic principles, the fiction of benevolent and perfectly competent discretionary monetary despots runs counter to the very heart of Friedman's monetarism. Encouraging such illusions and free lunch promises represents an outright betrayal of monetarist thought. It is strange that rules rather than discretion, in theory, encouraged discretion rather than rules, in practice. And it is no less strange that maximizing discretion should have become seen as presenting a free lunch. But it is most seriously dangerous that the inflationary bias of the time-inconsistency theme has fostered such an one-sided and (counter-) biased approach to central bank independence and monetary policy.

## REFERENCES

- Alesina, A., and R. Gatti. 1995. "Independent Central Banks: Low Inflation At No Cost?" *American Economic Review* 85:2: 96-200.
- Alesina, A., and N. Roubini. 1992. "Political Cycles in OECD Economics." *Review of Economic Studies* 59: 663-89.
- Alesina, A., and L. H. Summers. 1993. "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence." *Journal of Money, Credit and Banking* 25:2: 151-162.
- Backus, D., and J. Driffill. 1985a. "Inflation and Reputation." *American Economic Review* 75:3: 530-538.
- , 1985b. "Rational Expectations and Policy Credibility Following A Change in Regime." *Review of Economic Studies* 52: 211-222.
- Bagehot, W. 1873. *Lombard Street--A Description of the Money Market*. London: k. Paul, Trench, Tr?uber & C., Ltd.
- Barro, R. J., and D. B. Gordon. 1983a. "A Positive Theory of Monetary Policy in A Natural Rate Model." *Journal of Political Economy* 91:4: 589-610.
- , 1983b. "Rules, Discretion and Reputation in A Model of Monetary Policy." *Journal of Monetary Economics* 12: 101-121.
- Bean, C. 1998. "The New UK Monetary Arrangements: A View From the Literature." *Economic Journal* 108: 1795-1809.
- Bibow, J. 2000a. "Keynes on Central Banking and the Structure of Monetary Policy." Discussion Paper No. 52. University of Hamburg, ISTÖ.
- , 2000b. "Making EMU Work: Some Lessons from the 1990s." Discussion Paper No. 53. University of Hamburg, ISTÖ.
- , 2000c. "On Exogenous Money and Bank Behaviour: the Pandora's Box Kept Shut in Keynes' Theory of Liquidity Preference?" *European Journal of the History of Economic Thought* 7:4: 532-568.
- , 2001. "Easy Money Through the Back Door: The Markets vs the ECB." Working Paper no. 323. Annandale-on-Hudson, N.Y.: The Jerome Levy Economics Institute.
- Blinder, A. S. 1997. "What Central Bankers Could Learn from Academics--and Vice Versa." *Journal of Economic Perspectives* 11:2: 3-19.
- , 1998. *Central Banking in Theory and Practice*. Cambridge, Mass.: MIT Press.
- Bloomfield, A. L. 1959. *Monetary Policy under the International Gold Standard: 1880-1914*. New York: Federal Reserve Bank of New York.

- Buiter, W. H. 1981. "The Superiority of Contingent Rules Over Fixed Rules in Models with Rational Expectations." *Economic Journal* 91: 647-670.
- Campillo, M., and J. A. Miron. 1997. "Why Does Inflation Differ across Countries?" In Romer, C. and D. Romer, eds. *Reducing Inflation: Motivation and Strategy*. Chicago: University of Press.
- Chant, J., and K. Acheson. 1973. "Mythology and Central Banking." *Kyklos* 26: 362-379.
- Clark, P. B., C. A. E. Goodhart, and H. Huang. 1999. "Optimal Monetary Policy Rules in a Rational Expectations Model of the Phillips Curve." *Journal of Monetary Economics* 43: 497-520.
- Cukierman, A. 1992. *Central Bank Strategy, Credibility, and Independence: Theory and Evidence*, Cambridge, Mass.: MIT Press.
- DeBelle, G., and S. Fischer. 1995. "How Independent Should a Central Bank Be?" Conference proceedings. Boston: Federal Reserve Bank of Boston.
- De Long, J. B. 1997. "America's Peacetime Inflation: The 1970s." In Romer, C. D., and D.H. Romer, eds. *Reducing Inflation*. Chicago: University of Chicago Press.
- Eichengreen, B., ed. 1985. *The Gold Standard in Theory and History*. London: Methuen.
- Eijffinger, S. C. W., and J. de Haan. 1996. "The Political Economy of Central-Bank Independence." Special Papers in International Economics No. 19, International Finance Section. Princeton, N.J.: Princeton University.
- Eijffinger, S. C. W., and M. Hoeberichs. 1998. "The Trade-Off Between Central Bank Independence and Conservativeness." *Oxford Economic Papers* 50: 397-411.
- Englander, A. S. 1991. "Optimal Monetary Policy Design: Rules vs. Discretion Again." *Federal Reserve Bank of New York Quarterly Review* (Winter).
- Fischer, S. 1990. "Rules versus Discretion In Monetary Policy." In Friedman, Benjamin M. and Frank Hahn, eds. *Handbook of Monetary Economics*. Amsterdam: North-Holland.
- 1994. "Modern Central Banks." In Capie, F., et al., eds. *The Future of Central Banking*. Cambridge: Cambridge University Press.
- Forder, J. 1996. "On the Assessment and Implementation of 'Institutional' Remedies." *Oxford Economic Papers* 48: 39-51.
- 1998. "Central Bank Independence--Conceptual Clarifications and Interim Assessment." *Oxford Economic Papers* 50: 307-334.
- 1999. "Central Bank Independence: Reassessing the Measurements." *Journal of Economic Issues* 33:1: 23-40.
- 2001. "The Theory of Credibility and the Reputation-bias in Policy." *Review of Political Economy*: 13:1: 5-25.
- Friedman, M. 1953. "A Monetary and Fiscal Framework for Economic Stability." In Friedman, M., *Essays in Positive Economics*. Chicago: University of Chicago Press [1948].
- 1959. *A Program for Monetary Stability*. New York: Fordham University Press.
- 1962. "Should There Be An Independent Monetary Authority?" Reproduced in Friedman, M. *Dollars and Deficits*. Englewood Cliffs, N.J.: Prentice-Hall (1968).
- 1963. *Inflation: Causes and Consequences*. Bombay: Asia Publishing House.
- 1967. "The Monetary Theory and Policy of Henry Simons." *Journal of Law & Economics* 10: 1-13.
- 1968. "The Role of Monetary Policy." *American Economic Review* (March): 1-17.
- 1972. "The Case for a Monetary Rule." *Newsweek*, February 7.
- 1975. "How to Hit the Money Target." *Newsweek*, December 8.
- 1981. "A Memorandum to the Fed." *Newsweek*, January 30.
- 1982. "Monetary Policy: Theory and Practice." *Journal of Money, Credit and Banking* 1.
- 1984a. "Monetary Policy for the 1980s." In Moore, J. H., ed. *To Promote Prosperity: U.S. Domestic Policy in the 1980s*. Stanford, Calif.: Hoover Institution Press.
- 1984b. "Lessons from the 1979-82 Monetary Policy Experiment." *American Economic Review Papers and Proceedings* (May): 397-400.
- 1992. *Money Mischief--Episodes in Monetary History*. New York: Harcourt Brace.
- Fry, M. J. 1998. "Assessing Central Bank Independence in Developing Countries: Do Actions Speak Louder Than Words?" *Oxford Economic Papers* 50: 512-529.
- Fuhrer, J. C. 1997. "Central Bank Independence and Inflation Targeting: Monetary Policy Paradigms for the Next Millenium?" *New England*

*Economic Review* (January/February): 19-36.

Fuhrer, J. C., and G. Moore. 1995. "Inflation Persistence." *Quarterly Journal of Economics* 109: 127-159.

Gärtner, M. 1999. "The Election Cycle in the Inflation Bias: Evidence From the G-7 Countries." *European Journal of Political Economy* 15: 705-725.

German Council of Economic Experts. 1999. *Annual Report 1999/2000*. Chapter 2, Table 35.  
[www.sachverstaendigenrat-wirtschaft.de/pm/infoang.htm](http://www.sachverstaendigenrat-wirtschaft.de/pm/infoang.htm)

Goodhart, C. A. E. 1988. *The Evolution of Central Banks*, Cambridge, Mass.: MIT Press.

-----, 1994a. "Game Theory for Central Bankers: A Report to the Governor of the Bank of England." *Journal of Economic Literature* 32: 101-114.

-----, 1994b. "What Should Central Banks Do? What Should Be Their Macroeconomic Objectives and Operations?" *Economic Journal* 104: 1424-1436.

Goodhart, C. A. E., F. Capie, and N. Schnadt. 1994. "The Development of Central Banking." In Capie, F., et al., eds. *The Future of Central Banking*. Cambridge: Cambridge University Press.

Goodhart, C. A. E., and H. Huang. 1995. "What is the Central Bank's Game?" Financial Markets Group Discussion Paper No. 222.

-----, 1998. "Time Inconsistency in A Model with Lags, Persistence, and Overlapping Wage Contracts." *Oxford Economic Papers* 50: 378-396.

Guzzo, V., and Velasco, A. 1999. "The Case for a Populist Central Banker." *European Economic Review* 43: 1317-1344.

Hall, P. A. 1994. "Central Bank Independence and Coordinated Wage Bargaining: Their Interaction in Germany and Europe." *German Politics and Society* (Autumn): 1-23.

Hall, P. A., and R. J. Franzese. 1998. "Mixed Signals: Central Bank Independence, Coordinated Wage-bargaining, and EMU." *International Organisation* 52: 505-575.

Hayo, B. 1998. "Inflation Culture, Central Bank Independence and Price Stability." *European Journal of Political Economy* 14: 241-263.

Ireland, P. N. 1999. "Does the Time-consistency Problem Explain the Behaviour of Inflation in the United States?" *Journal of Monetary Economics* 44: 279-291.

Issing, O. 1999. "The ECB and its Watchers." Speech, Frankfurt, June 17.

Iversen, T. 1998. "Wage Bargaining, Central Bank Independence, and the Real Effects of Money." *International Organization* 52: 469-504.

Jordan, T. J. 1997. "Disinflation Costs, Accelerating Inflation Gains, and Central Bank Independence." *Weltwirtschaftliches Archiv* 133: 1-21.

-----, 1998. "An Empirical Observation on Central Bank Independence and Real Output." *Open Economies Review* 9: 219-225.

Keynes, J. M. 1932. "The Monetary Policy of the Labour Party." *The New Statesman and Nation* 17, 24 (September) In *Collected Writings of John Maynard Keynes*, vol. 21: 128-145.

-----, 1936. *The General Theory of Employment, Interest and Money*. In *Collected Writings of John Maynard Keynes*, vol. 7.

Kydland, F. E. and E. C. Prescott. 1977. "Rules Rather Than Discretion: the Inconsistency of Optimal Plans." *Journal of Political Economy* 85:3: 473-491.

Laidler, D. 1999. *Fabricating the Keynesian Revolution*. Cambridge: Cambridge University Press.

Levy, D. 1995. "Does An Independent Central Bank Violate Democracy?" *Journal of Post Keynesian Economics* 18: 189-210.

Lohmann, S. 1992. "Optimal Commitment in Monetary Policy: Credibility Versus Flexibility." *American Economic Review* 82: 273-286.

Magano, G. 1998. "Measuring Central Bank Independence: A Tale of Subjectivity and of its Consequences." *Oxford Economic Papers* 50: 468-492.

McCallum, B. T. 1995. "Two Fallacies Concerning Central-Bank Independence." *American Economic Review Papers and Proceedings* 85:2: 207-211.

-----, 1997a. "Crucial Issues Concerning Central Bank Independence." *Journal of Monetary Economics* 39: 99-112.

-----, 1997b. "Issues in the Design of Monetary Policy Rules." NBER Working Paper No. 6016. Washington, D.C.: National Bureau of Economic Research.

Modigliani, F. 1977. "The Monetarist Controversy Or, Should We Forsake Stabilization Policies?" *American Economic Review* 67: 2: 1-19.

Muscattelli, V. A. 1998. "Political Consensus, Uncertain Preferences, and Central Bank Independence." *Oxford Economic Papers* 50: 412-430.

Persson, T., and G. Tabellini. 1993. "Designing Institutions for Monetary Stability." *Carnegie-Rochester Conference Series on Public Policy* 39:

Posen, A. S. 1993. "Why Central Bank Independence Does Not Cause Low Inflation: There is No Institutional Fix for Politics." In O'Brian, R., ed. *Finance and the International Economy*. Oxford: Oxford University Press.

Posen, A. 1995. "Declarations Are Not Enough: Financial Sector Sources of Central Bank Independence." *NBER Macroeconomics Annual*. Cambridge, Mass.: MIT Press.

-----, 1998. "Central Bank Independence and Disinflationary Credibility: A Missing Link?" *Oxford Economic Papers* 50: 335-359.

Prati, A., and Schinasi, G. J. 1999. "Financial Stability in European EMU." *Princeton Studies in International Finance* no. 86. Princeton: Princeton University

Rogoff, K. 1985. "The Optimal Degree of Commitment to a Monetary Target." *Quarterly Journal of Economics* 100:4: 1169-1189.

Rymes, T. K. 1995. "Autonomous and Accountable." *Journal of Post Keynesian Economics* 18: 177-189.

Sargent, T. J. 1999. *The Conquest of American Inflation*. Princeton, N.J.: Princeton University Press.

Simons, H. 1936. "Rules versus Authorities in Monetary Policy." *Journal of Political Economy* 44: 1-30.

Staiger, D., J. H. Stock, and M. W. Watson. 1997. "The NAIRU, Unemployment, and Monetary Policy." *Journal of Economic Perspectives* 11: 1: 33-49.

Svensson, L. E. O. 1997. "Optimal Inflation Targets, 'Conservative' Central Banks, and Linear Inflation Contracts." *American Economic Review* 87: 98-114.

-----, 1999. "Inflation Targeting As A Monetary Policy Rule." *Journal of Monetary Economics* 43: 607-654.

Taylor, J. B. 1993. "Discretion Versus Policy Rules in Practice." *Carnegie-Rochester Conference Series on Public Policy* 39: 195-214.

-----, 1995. "The Monetary Transmission Mechanism: An Empirical Framework." *Journal of Economic Perspectives* 9: 11-26.

-----, 1997. "Comment." In Romer, C. D., and D. H. Romer, eds. *Reducing Inflation*. Chicago: University of Chicago Press.

-----, 1998. "Monetary Policy Guidelines for Employment and Inflation Stability." In Friedman, B. M., ed. *Inflation, Unemployment, and Monetary Policy*. Cambridge, Mass.: MIT Press.

-----, ed. 1999. *Monetary Policy Rules*. Chicago: University of Chicago Press.

Tobin, J. 1972. "Inflation and Unemployment." *American Economic Review* 62 (March): 1-18.

-----, 1980. *Asset Accumulation and Economic Activity*. Oxford: Basil Blackwell.

Toniolo, G., ed. 1988. *Central Bank Independence in Historical Perspective*. Berlin and New York: de Gruyter.

Walsh, C. E. 1995. "Optimal Contracts for Independent Central Bankers." *American Economic Review* 85: 150-167.

1. On the historical evolution of central banks and central banking see Goodhart 1988, Goodhart *et.al.* 1994.

2. As even the classical gold standard was a "managed" system, with the degree of discretion unevenly distributed among the participating countries and central banks (cf. Bloomfield 1959, Eichengreen 1985, for instance).

3. As an irony of history, in 1945-6 (Old) Labour brought the "Old Lady" under the Treasury's direct control, whilst Keynes was serving as a director on the Bank's Court. In 1997-8, (New) Labour established a structure of monetary policy (the "New Lady") which may bear some important resemblance to Keynes's (1932) proposal. Bibow (2000a) discusses in detail the evolution of Keynes's views on central banking and the structure of monetary policy.

4. Friedman defines an independent central bank as a "coordinate constitutionally established, separate organization ... [not] subject to direct control by the legislature" (Friedman 1962, p. 180). And he explains: "I have been describing an independent central bank as if it could or would be given a good deal of separate power, as clearly is currently the case. Of course, the whole notion of independence could be rendered merely a matter of words if in fact the constitutional provision setting up the bank established the limits of its authority very narrowly and controlled very closely the policies that it could follow" (Friedman 1962, p. 183).

5. By 1984, and in view of the experience of the previous two decades, Friedman had altered his views about the importance of personalities in central banking. But his overall rejection of central bank independence did not become any less pronounced. Dealing with the objection to eliminating the Fed's independence that this would make monetary policy a plaything of politics, he remarks that his "own examination of monetary history indicates that this judgement is correct, but that it is an argument for, not against, eliminating the central bank's independence" (Friedman 1984A, p. 44). Friedman's favour for *legislated* rules is in line with earlier "Chicago plans" (cf. Friedman 1967, Laidler 1999, Simons 1936). In his view, however, price stability laws allowed the authorities far too much discretion. Interestingly, already Friedman's (1948) earliest plan featured legislated instrument rules (as opposed to instrument independence). In fact, Friedman abhorred the whole idea of manipulating interest rates and thus strongly criticized the indirect implementation approach of monetary targeting, namely via a (feedback) interest-rate rule (cf. Friedman 1959, 1975, 1981, 1982, 1984b).

6. The Keynesian position was thoughtfully qualified by Tobin (1972, 1980) arguing that modern economies may be afflicted by a *structurally* caused inflationary bias which monetary policy may not be able to offset costlessly. Arguably, those downward nominal rigidities at the root of this



bias should not be counteracted either as they support the system's stability and monetary policy's effectiveness.

7. Friedman (1992, pp. 222-3) too thought that transparency of conduct would improve the effectiveness of monetary policy but nevertheless emphasised that monetary restriction - temporarily exercised! - would have strong but temporary real effects (i.e. in "the short run"). A crucial aspect of his  $k$  percent rule, at least ideally, is that monetary policy would be *automatically* expansionary if activity were depressed below potential. Put differently, his rule was symmetric also in the sense of precluding central bankers from any discretion concerning negative output gaps.

8. According to Kydland and Prescott (1977), optimal feedback rules would give rise to the time-inconsistency problem. As a possible solution they refer to the early Friedman (1948) proposal to tie the monetary base by a fixed rule to the budgetary position, with fiscal policy itself being rule-based. Friedman's legislated  $k$  percent rule would seem to provide an even more suitable candidate rule.

9. Shocks also feature in Barro and Gordon (1983a) but they arise only after the policymaker has set the inflation-surprise instrument and, hence, do not affect the time-inconsistency cum credibility problem as such (nor the rules vs discretion debate). The role of these shocks is to induce persistent changes in the natural rate (see below).

10. In the context of a model which features inflation persistence and duly abstracts from the alleged time-inconsistency problem, Clark et. al. (1999) illustrate that there is a trade-off between the optimal "discretionary rule" and the optimal "commitment rule" as far as the impact of inflation shocks on inflation and output is concerned. In the commitment rule case the policymaker internalizes the impact of its decision rule on private sector expectations (cf. Svendsen 1997). In this way, interest rate expectations are held to provide an additional policy instrument (not available under the discretionary rule) that stabilizes the systematic component of inflation, but at the cost of foregoing flexibility in response to unforeseen shocks.

11. McCallum (1997) distinguishes between types of policy-making behaviour which either *do*, or *do not*, accurately take account of private expectational behaviour, but fails to illuminate how private expectations may be guided (or, anchored) on zero rather than positive inflation; a failure of which would imply a policy-induced recession. He simply *assumes* that "an unconstrained but independent" central bank would solve the problem. Paradoxically, McCallum's research seems otherwise to concentrate on ways to *constrain* the central bank by appropriate "rules."

12. Cf. Blinder (1998) and Forder (1998). Contrary to popular myth (and poor parodies like the one featuring in the time-inconsistency literature), Keynes (1936) referred to situations where employment was less than full, arguing that in such conditions a *temporarily* expansionary monetary policy might *permanently* raise employment towards full employment, and without resorting to "surprise inflation." Svensson (1997: 100) misses the point when he downplays the truly crucial role of the postulated goal conflict as a mere modelling convenience, arguing: "The role of this [overambitious] employment target is to introduce a benefit from a surprise inflation."

13. I emphasise this point as some authors (cf. Goodhart 1994B, pp 1426-7, Svensson 1997, p. 100, n. 4) suggest, wrongly in my view, that it all "amounts to the same thing in the end."

14. More precisely, this result follows from the assumption that the overambitious employment target is a fixed fraction of the "distorted" natural rate level. Hence the inflationary bias rises with the absolute size of the gap between the two, which would not be the case if the targeted rate were always, say, two percentage points below the time-varying or time-invariant natural rate. In either case, the time-inconsistency caricature of discretionary policy-making postulates that the policymaker would never be inclined to stop "chasing the moon."

15. Some authors interpret their empirical findings as evidence of a free lunch and thus as contradicting Rogoff (e.g. Alesina and Summers 1993). Alesina and Gatti (1995) distinguish between policy-induced variability, reduced by central bank independence, and economic variability, less vigorously reacted to by a conservative central banker. The overall effect of central bank independence on output variability then appears ambiguous.

16. Fischer and DeBelle (1995) discuss central bank loans to the Treasury. This very link between the house-bank domain and monetary stability (referred to under the heading of *financial* independence) provided the historical rationale for central bank independence in the inflationary aftermath of WWI (Toniolo 1988). The relation between the monetary and financial stability domains has led to concerns in the EMU context (Prati and Schinasi 1999).

17. Bean's (1998) variation on the time-inconsistency theme features a re-specification of the government's objective function, excluding the distortion parameter  $k$ , but adding another term that "reflect[s] the potential electoral reward from expanding output so as to signal competence." By assumption, this additional term is absent from the independent central banker's specified objective function, yielding an elegant case for central bank independence: "*it is the act of delegation itself that solves the time inconsistency problem*" (Bean (1998, p. 1799)). Bean's delegation solution not only *assumes* different objectives for politicians and central bankers respectively (open to McCallum's critique). It also *assumes* that prestige ("signal competence") would matter differently for the two parties; the presumption being, again, that independent central bankers are inherently sound, while democratically-elected politicians are inherently unsound. Commenting on the time-inconsistency theme, Milton Friedman characterizes the typical policymakers' loss function as follows: "From revealed preference, I suspect that by far and away the two most important variables in their loss function are avoiding accountability on the one hand and achieving public prestige on the other" (quoted in Fischer 1990, p. 1181, fn. 52). Backus and Driffill (1985A,b) illustrate that credibility by reputation building is hardly ever costless. While the alleged link between credibility and central bank independence itself is highly questionable, the potential benefits from credibility in coping with the alleged time-inconsistency problem clearly depend on the empirical relevance of that problem. Cf. Forder's (1998) thoughtful discussion.

18. Gärtner (1999) offers evidence of an "election cycle in the inflation bias" for G7 countries except the U.S., which he rationalises in terms of retrospective voters and output persistence. In general, the empirical evidence on political business cycles appears to be mixed (Alesina and Roubini 1992).

19. When Walter Bagehot weighed the pros and cons of long contracts of central bankers (or even a permanent Governorship), he clearly saw the risks involved. Bagehot (1873) did not want to trust that "we should always get the best man for the post; often I fear that we should not even get a tolerable man." See also Chant and Acheson 1973 and Muscatelli 1998.

20. While the focus here is on the theoretical side to the current fashion for central bank independence based on the time-inconsistency theme, the empirical side is hardly more compelling. The supposed evidence consists largely of cross-country comparisons based on a variety of indices of central bank independence (Alesina and Summer 1993, Cukierman 1992, Eijffinger and de Haan 1996 etc), which are then fallaciously applied for

making time-series promises of the free-lunch type. For one thing, see Magano's (1998) "tale of subjectivity" in these analyses. One key criticism is, of course, that statistical correlations do not imply causation, which may actually run the other way round or be due to third factors (Campillo and Miron 1997, Hayo 1997, Posen 1993, 1995). Another criticism is that neither correlations nor rankings appear to be particularly robust (Fuhrer 1997, Forder 1999). The most fundamental criticism is due to Forder (1996), arguing that the statutes-reading approach to testing the benefits of central bank independence is methodologically flawed and does not actually test the hypothesis in the first place.

21. While the focus here is on the biased approach the time-inconsistency literature has led to as regards monetary structure, similar effects on policy conduct are discernable as well. If the monetary structure features scope for discretion in this regard, the time-inconsistency literature might even encourage practical central bankers (particularly those with an academic background) to become obsessed with their anti-inflation reputation and the idea that acting "tough" on inflation is the best policy under all circumstances and will always be perceived as such by the markets. If financial market participants entertain models of the world other than the peculiar one postulated in the time-inconsistency literature, such obsession might not only lead to poor monetary policy. It might even provoke the very type of time-inconsistency problem in financial markets that Keynes identified; as I argue elsewhere (Bibow 2001) has been the case with the European Central Bank [ECB] over 1999-2000. According to Issing (1999), the ECB's chief economist, there "has been a very fruitful discussion [on the overriding concern for maintaining price stability] culminating in the literature on the dead-weight losses from inflation and time inconsistency. The gain monetary policy has made from this debate, and the monetary reforms that it inspired, has been invaluable." See also Forder (2001).

22. The postulate of money neutrality seems crucial in this regard. On the one hand, given that monetary policy is generally held to be non-neutral in "the short run," even the neutrality postulate would only partially resolve this tension. (See Levy 1995 and Rymes 1995, for instance, for thoughtful discussions of this fundamental issue.) On the other hand, though, the denial of the neutrality postulate per se does not rule out that there might not be some scope for central bank independence in a sound structure of monetary policy.

23. Guzzo and Velasco (1999: 1317) show that with centralised wage-bargaining (i.e. a corporatist incomes-policy variety) a "radical-populist central banker who cares not at all about inflation ... maximizes social welfare."

24. There exists an illuminating literature on the role of wage bargaining institutions and their interaction with monetary policy. See, for instance, Hall 1994, Hall and Franzese 1998, Iversen 1998, Soskice and Iversen 1998.

25. Cf. Taylor (1999). Today's two most prominent examples are the "Taylor rule" and inflation targeting, the former being an instrument rule, the latter a target rule in Svensson's (1999) suitable terminology. However, the Taylor rule's family resemblance to Friedman's fixed base rule (cf. Taylor 1998) is more apparent than real, as proponents see the Taylor rule as a mere "benchmark" including genuine *flexibility*; and, hence, as a far cry from Friedman's binding operational constraint. In practice, inflation targeting may well be the *less* discretionary strategy.

26. Compare my recommendation with an alternative one derived by taking the time-inconsistency problem serious. Svensson (1997) argues that prescribing an inflation target *below* the target rate society actually wishes to achieve represents the kind of efficient principal-agent-contract which would counterbalance the time-inconsistency problem. Could the peculiar *bias of irrationality* afflicting the time-inconsistency theme be made more apparent? In general, monetary theorists do not view setting the watch five minutes in advance to avoid coming late as particularly rational. See Blinder (1997, 1998).