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A Framework for the *ex ante* Analysis of Monetary Reforms

MATT SEKERKE & STEVE H. HANKE

*The Institute for Applied Economics and the Study of Business Enterprise, The Johns Hopkins
University, Baltimore, USA*

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ABSTRACT Proposals for monetary reform based on inflation targeting, in Iraq and elsewhere, face a variety of practical and theoretical difficulties. In evaluating attempted reforms based on inflation targeting, we suggest some propositions broadly consistent with the new institutionalist critique. In particular, we stress the importance of recognizing path-dependent features of the economic system. An awareness of the reduced generality of theoretical results in light of institutional limitations, combined with an impossibility criterion for economic policy technologies, holds promise for designing a set of readily attainable reforms. We argue that these criteria, far from being esoteric, actually interact in a way that underpins foundational results in monetary theory due to James E. Meade and Robert A. Mundell.

KEY WORDS: Economic policy formation, economic policy analysis, inflation targeting

JEL CLASSIFICATION: E600, O200, E580, B400

Introduction

Economists' most basic tools are predicated on the existence of competition, constrained by rules and guided by information that allows market participants to achieve mutually beneficial (indeed, optimal) outcomes. In most of what is considered the developing world, these conditions do not rule. An economist advocating market-oriented policies for developing countries thus risks begging the question: relevant information, rules, and

Correspondence Address: Professor Steve H. Hanke, The Institute for Applied Economics and the Study of Business Enterprise, The Johns Hopkins University, Baltimore MD 21218-2685, USA. Email: hanke@jhu.edu

a system of competition cannot be presumed to emerge *ex nihilo* in a developing economy. Hence, policy must deal directly with issues of information, rules, and competition, rather than assuming them. This line of argument is broadly in harmony with the body of research within the new institutional economics, as well as with the Austrian conception of the market process.

We look in particular to the case of Iraq. There, the desire has been rightly articulated to pursue growth-oriented economic policies within a market context in the interest of rapidly raising unconscionably depressed living standards. We have offered policy advice within the realm of money and banking (Hanke and Sekerke, 2003, 2004; Sekerke and Hanke, 2005) that is consistent with such a goal. Nevertheless, our proposals have been challenged vocally by the International Monetary Fund (2003), the United Nations and the World Bank (2003), and the Coalition Provisional Authority (CPA) who offer a distinct policy position of their own (Foote *et al.*, 2004). We favor dollarization or a currency board arrangement while the international institutions favor inflation targeting. While both positions can be described as ‘market-oriented’, they handle information, rules, and competition in markedly different ways.

It is reasonable to inquire into what sort of criteria might be used to decide between the competing recommendations. This presupposes a sort of *ex ante* policy analysis – a relative curiosity in the genre of policy analysis, which has a predominantly *ex post* orientation. An *ex ante* analysis necessarily asks methodological questions, because empiricism *tout court* has little to offer (no country has taken the proposed action at this precise instant under identical initial conditions, so we cannot speak of a ‘test’ episode), and because the goal, in fact, is theory selection. The circumstances surrounding *ex ante* policy analysis are important because we would like to eliminate undesirable policy proposals before they have the opportunity to degenerate into counterproductive ends in themselves. Therefore, the methodological criteria underlying competing theories, as well as the criteria used to select among them, are worth discussing and criticizing.

Path dependence and *ex ante* policy analysis

While virtually all central banks use a short-term nominal interest rate as their instrument, and an extensive empirical literature characterizes actual monetary policy in terms of estimated central bank “reaction functions” for setting such interest rates, the theoretical literature in monetary economics has concerned itself almost entirely with the analysis of policies that are described by alternative paths for the money supply. (Woodford, 2003, p. 61.)

The above statement, by a distinguished theorist of inflation targeting regimes, is remarkable for its economy. First, an empirical statement, and

an observation: virtually all central banks use a short-term interest rate instrument, so we need not discuss the use or consequences of alternative instruments. Second, another allusion to the empirical record: the literature on central bank reaction functions does a good job of describing central bank policy (see, for example, the extensive analysis in Siklos, 2002, pp. 128–192). Third, we are told that new policy instruments should motivate new theory. It is, or ought to be, the task of monetary economics to understand how policies based on short-term nominal interest rates determine the price level and other target variables; the money supply is a barbarous relic. Fourth and finally, the desideratum: an explanation of price level determination that does not involve the money supply – or at least an explanation from which one can later derive the money supply path as a necessary consequence. Overall, it is a masterstroke of programmatic exposition.

Having come only this far, what might one expect from this sort of theory when applied to a developing country? A number of questions raise themselves. As an empirical matter, it is true that the central bank (either currently or potentially, under a conceivable future scenario) uses a short-term nominal interest rate as its policy instrument? Can we imagine the central bank reacting in a stationary, well-defined fashion to deviations from target variables, as though it had a particular reaction function? Can the money supply be glossed over in policy discussions?

In the history of central banking, the targeted short-term interest rate is either a Treasury bill yield, or an interbank rate. By assumption – for example, the decomposition of any interest rate into a risk-free component and risk premia, or the portfolio optimization problem solved by banks responding to changes in liquidity – the short-term interest rate enters a monetary policy transmission mechanism connecting it to the target policy variables. One need not be shy about adding subsidiary hypotheses, either: perfect financial markets and intertemporally optimizing households also have their place. We soon run into additional empirical matters: Do such financial markets exist? What sort of transaction costs characterize them? Are there large numbers of buyers and sellers, equipped with sufficient information to achieve efficient outcomes? Are all steps in the proposed transmission mechanism predictable and well behaved?

Reaction functions pose a number of questions about the central bank's capacity for control. Implicitly, the central bank knows the elasticity of a number of economic parameters with respect to changes in its policy instruments. Again, this presupposes knowledge of past outcomes, error elimination and calibration. 'Data' have been collected, analyzed, and fitted. In the light of so much past learning, it is *a propos* that the proper equilibrium concept to employ in the theory of inflation targeting involves 'a unique equilibrium within a sufficiently small neighborhood of certain paths for the endogenous variables' (Woodford, 2003, p. 77) – most of the big problems have already been solved, by assumption.

Money supply cannot be emancipated from the accounting identities governing it, especially when central bank base money makes up a large

proportion of higher-order monetary aggregates. The elephant in the room here is the balance of payments: do foreign reserves matter? (We find neither 'foreign reserves' nor 'balance of payments' in Professor Woodford's index.) As an empirical matter, the answer is very different in the United States than in, say, Brazil. It would be tedious to belabor such matters as the sensitivity of economic processes to exchange rates, or the very difficult question of the substitutability of foreign and domestic securities.

The purpose of the foregoing is not to heap scorn on Professor Woodford's achievement, or more generally on theorists of inflation targeting who are extending our understanding of monetary policy. It is rather to un-bundle from the theory a number of tacit empirically motivated conjectures – the theory's own path dependence – that make the theory readily applicable to developed economies. We also might ask to what extent those conjectures are problematic in economic development applications.

Proposition one

Critical examination of the empirical assumptions embodied in a motivating theory is fundamental to *ex ante* policy analysis.

In the case of Iraq, we expected (Hanke and Sekerke, 2003, p. 3) and international institutions found (International Monetary Fund, 2003; United Nations and World Bank, 2003) an insolvent banking system, a lack of securities markets, and a primitive interbank market. Since there are no disputes about the initial conditions, we present the findings of the IMF, UN, and World Bank.

'Iraq's financial system is currently dysfunctional'

In its 2003 needs-assessment report for Iraq, the United Nations and the World Bank observed 'The banking system has no credit facilities and no effective payments system'. Overall, they determined that 'Iraq's financial system is currently dysfunctional, with little financial intermediation, ineffective institutions, and a poorly organized regulatory framework' (United Nations and the World Bank, 2003, p. 39). The IMF likewise reported 'the latitude for proper monetary and exchange rate policy actions is limited by a lack of appropriate instruments' (United Nations and the World Bank, 2003, p. 13). Article 15 of the Iraq Banking Law suggests that direct instruments of monetary policy would dominate in the central bank's operations. 'Each branch of a foreign bank, if so directed by the CBI [Central Bank of Iraq], shall maintain in Iraq an excess of assets over its liabilities to residents of Iraq in such amount, if any, as the CBI may stipulate'. However, even though the central bank retains the authority to institute direct controls, '... the banking supervision regime is poor and in need of significant improvement in all areas including banking and supervision laws, organization, technology, human resources and training, development of procedure and operational manuals, regulations, and supervisory framework' (United Nations and World Bank, 2003, p. 39).

As for data, the IMF noted that currency in circulation ‘... is the only monetary variable for which information exists, and that monetary transmission channels are uncertain’ (IMF, 2003, p. 18). There was an ‘... absence of reliable basic macroeconomic data’, (IMF, 2003, p. 6) and ‘... no reliable balance of payments data’ (IMF, 2003, p. 9). Furthermore, ‘... most government records have disappeared in the pervasive looting and destruction of ministries’ (IMF, 2003, p. 11). The central bank could not even assemble a continuous time series for the exchange rate of the dinar (IMF, 2003, p. 12). To sum up, the report concluded, ‘The dearth of reliable economic data in Iraq complicates the design and evaluation of the macroeconomic strategy’ (IMF, 2003, p. 19). Needed management skills were also lacking. ‘The role of financial institutions – including the CBI – was restricted to the provision of cash to the government sector, including the SOEs’ (IMF, 2003, p. 8), continues the Fund, implying that staff at these institutions are not prepared to operate a central bank or commercial banks in a market economy. Recently released statistics reinforce this conclusion: commercial bank deposit and lending rates were essentially fixed for the entire 1995 to 2001 period; we can presume that this was the state of affairs prior to 1995 and from 2001 to 2003 as well. It seems that Iraqi banks have made no effort in recent memory to bid for ‘loanable’ funds or to compete for profitable lending business (Sekerke and Hanke, 2005, p. 68). The United Nations and World Bank concurred: ‘Iraq’s immediate challenge in the financial sector, therefore, is improving the banks’ financial and managerial capacity’ (United Nations and World Bank, 2003, p. 11).

Since we agree with the international institutions as to the initial conditions in Iraq, it is almost certainly true that we attributed a much higher weight to the initial conditions than they did. Were we justified in doing so? It is indeed true, almost 18 months after both proposals were tabled, that the Central Bank of Iraq has no operating instrument besides sales of foreign currency, which may merely be take-it-or-leave-it offers of foreign exchange at a set price (Sekerke and Hanke, 2005). Since most prices in Iraq are still administered, it is hard to say whether inflation can be controlled by the central bank. However, according to their September 2004 Letter of Intent, Iraq’s plans for technical and financial assistance from the IMF stretch through September 2005 and could take considerably longer, pending the development of a plan to resolve the banking system. Ignoring the institutional peculiarities of Iraq’s economy arguably entails a long and potentially unbounded policy implementation horizon. As such, the institutionalist critique arrives at a conclusion that is similar to that of a much different methodological rule, which we introduce next.

Existence, impossibility, and *ex ante* policy analysis

Many advocates of inflation targeting – and by extension, independent central banks – trace their lineage back to the work of Kydland and Prescott (1977) and Barro and Gordon (1983). Although both of these papers offer explanations for the stagflation of the 1970s, and both papers offer a solution

based on commitment to a certain form of policy, there is a subtle but important difference between the two results: Kydland and Prescott (1977) rest on an impossibility result, whereas Barro and Gordon (1983) conclude with an existence result. Accordingly, they do not translate into policy in the same way: an impossibility result *restricts* the set of *available* policies to a subset of *feasible* policies, whereas an existence result leaves us with the original set and the problem of making the result come about with one element of the set.

Philosopher and social theorist Karl Popper suggested that useful social technologies – of which economic policy is a variety – do not point out what *can* be achieved, but rather what *cannot* be achieved (Popper, 2002, Section 20). Such an impossibility criterion has a logical form directly related to that of a universal law, of the sort that scientists attempt to discover within any body of theory. Any universal law may be rewritten to forbid a particular state of affairs, for example, ‘the law of conservation of energy can be expressed by: “You cannot build a perpetual motion machine” and that of entropy by: “You cannot build a machine which is a hundred per cent efficient”’ (Popper, 2002, p. 56). Rewritten in this technological form, the hypotheses of economics can be used to guide a reform strategy in a piecemeal fashion. For example, ‘The housing market will not clear if rents are reduced below market levels by statute’. If there were no excess demand for housing when rents are held to a below-market level, then there would be reason to doubt our hypothesis given in technological form, and perhaps to seek other technologies.

Destructive social technologies are those that require a wholesale transformation of society. These technologies are derived from theoretical statements that prohibit no conceivable state of affairs. Consequently, there exists no signal that, upon implementation, could suggest that the technology is faulty. Popper observed that such attempts at reform often lead to improvisation on the part of policymakers, as their intended goals prove ever more elusive in the face of unintended consequences (Popper, 2002, p. 63).

Vacuous impossibility statements are ruled out by the rule that they must prohibit some state of affairs, and therefore encompass some empirical content. Empirical content is directly proportional to the possibilities ruled out by the statement.

Existence versus impossibility

Kydland and Prescott interpret the first order conditions of a social-welfare maximization problem to find quite simply that optimal control theory cannot be applied to aggregate demand management when expectations are rational. In their proof, the primary assumption is that agents’ decisions depend on all past decisions by themselves and all decisions through the current decision by the policymaker (Kydland and Prescott, 1977, pp. 475–476). Instead of imposing this latter condition as a constraint (or, rather, as an additional hypothesis), Barro and Gordon find that it emerges as a property of equilibrium in a game between the policymaker and private agents (Barro and

Gordon, 1983, p. 592). Agents solve the policymaker's optimization function, understanding that the policymaker considers their own expectations. Once the game is common knowledge, a Nash equilibrium emerges (Barro and Gordon, 1983, pp. 596–597). At this point, policymaking involves the central bank finding the fixed point of its reaction function.

However, good topology does not necessarily make good policy. We can say that in adopting the Nash equilibrium concept, it has been assumed, *sotto voce*, there is something like a semi-continuous central bank reaction function mapping a compact, convex underlying policy space onto itself. We might interpret the compactness condition to mean that any conceivable fine-tuning adjustment is possible, but we should ask again, is the reaction function even *well defined*? Some central banks can convince the public that it is. However, here the matter also turns on the difference between existence and impossibility. The fixed-point theorem in this context has nothing to say about uniqueness. How do we find the 'best' fixed point? (Woodford's local equilibrium conditions dodge the question to some extent, since we are assumed to be within some neighborhood of the equilibrium a priori.)

There is also the matter of how exactly we might develop the result into a useful technology. In general, central banks have taken to doing all they can to convince the public as to what their optimal monetary policy is by setting targets and jawboning endlessly. However, this begs the question of the optimal policy, and still does not tell us what the central bank does to achieve it. The result is, therefore, a poor guide to policy formulation – we know *that* a policy target exists, but not *how* to achieve it. Alternatively, an impossibility result tells us there are some things we simply cannot do, so we should stop trying.

Proposition two

Policies based on existence results ought to be regarded with suspicion, as one does not know how long institutions of economic policy will grope for the desired equilibrium. Policies that have no clear terminal point risk degenerating into improvisation.

Failing to achieve a postulated existence result entails a long period of adjustment – indeed the adjustment period may not have any obvious point of termination. It is instructive to consider the recent experiences of Turkey and Brazil, which are particularly important because they are the first countries where the IMF designed adjustment programs around inflation targeting frameworks, rather than balance sheet targets (particularly, restrictions on the growth of net domestic assets). The Polak model (Polak, 1957) formerly employed by the IMF in its adjustment programs was based on the monetary approach to the balance of payments, which can easily be re-written as an impossibility statement: A country cannot simultaneously reverse a balance of payments deficit and increase domestic credit. (It would be prudent also to add restrictions on the growth rate of output and changes in foreign prices, or world inflation.)

Turkey is only now achieving its inflation targets after six years on the most heavily financed IMF adjustment program in history, during which it has endured a series of devaluations, rapid currency depreciation under a floating regime, spectacular bank failures, and continued high inflation. Brazil pursued a similar program and came within an eyelash of a downward debt-default-depreciation spiral during its last elections in 2002. It has avoided wide misses of its inflation targets – but has mostly missed – only by maintaining real interest rates at extremely high levels, which all but disqualify bank credit as a viable source of finance.

That Turkey and Brazil have struggled for so long is strange because, on the face of it, inflation-targeting regimes present a very clear signal when they are not working. If prices are free to adjust and the target is not hit on a specified date, then there is a sign that the inflation-targeting regime is not working and alternative solutions can be sought. One simple problem is that policymakers do not deign to set a definite date on which the regime transition will be complete and the inflation target will become binding. However, an all-encompassing immunizing stratagem can be found in the ‘external shock’. Inflation targeting central banks miss targets because of external shocks. How do we know that an external shock has occurred? The central bank has missed its target, a circular argument.

The story has been largely the same in Iraq. In the early days of transition, the Coalition Provisional Authority did not restrict itself to crisis management; its decisions were also early proposals about the direction of future policies. Granting legal independence to the central bank suggested that Iraq should be following the example of developed economies like the UK, Japan, the Euro zone, and others in formulating its monetary institutions. The new banking legislation ratified the existence of Iraq’s banks, giving them license to ask for assistance and to become a *raison d’être* for the central bank.

Consensus opinion quickly developed along these lines, giving voice to the nascent conviction that Iraq should have an independent central bank, which would target inflation, manage a floating dinar, and act as lender of last resort to the banking system. The International Monetary Fund (IMF), for one, presented its policy conclusions at the October 2003 International Conference on Reconstruction in Iraq, stating, ‘the primary objective for monetary policy should be to maintain broad price stability’ and finding it ‘encouraging that a consensus appears to have emerged in favor of a managed float arrangement’ (International Monetary Fund, 2003, p. 21). The United Nations and World Bank simultaneously expressed their desire for ‘... a functional Central Bank of Iraq able to resume its critical functions as provider of liquidity and lender of last resort to the banking sector’ (United Nations and World Bank, 2003, p. 39).

Now, nearly a year and a half after these proposals have been advanced little has changed from the initial conditions. Iraqi banks are still insolvent; interbank, money and treasury markets are still wishful thinking; and the independence of the central bank remains very much in question. The situation has degenerated into improvisation, with the central bank trying to build markets to transact in, and to recapitalize banks with which to do business.

Furthermore, no one has come to the realization that Iraqi banks do not perform any of the functions that normal banks do, namely channeling loanable funds to productive investment activities (Sekerke and Hanke, 2005).

Two classic impossibility results

It is worth recalling at this point that the primary results of international monetary economics are impossibility results. We refer to the discovery by Meade (1952) and Mundell (1960,1962) that a central bank cannot simultaneously target internal balance – the clearing of domestic goods and services markets, including the labor market – and external balance (balance of payments equilibrium, although general equilibrium can be characterized regardless of which target is selected).

Meade found international economic policy problems intractable in the developing dynamic theory of the early 1950s, and so developed his analysis in terms of comparative statics. He did recognize that his approach in terms of comparative statics was inadequate. He described the method as follows:

The method ... is first to consider a number of countries in at least partial or temporary equilibrium, domestically and internationally; next to introduce some disturbing factor (which is often an act of government policy) into this equilibrium; then to consider the new partial or temporary equilibrium which the economies will attain when the direct and indirect effects of the disturbing factor have fully worked themselves out; and finally to compare the new position of equilibrium with the old. In other words, this is a work not on dynamics, but on comparative statics, in economics. (Meade, 1952, p. viii.)

Meade was able to argue the impossibility of simultaneously achieving internal and external balance (as had Keynes and Fisher beforehand – see Mundell, 1960, p. 152), and use the conflict to motivate relevant questions for policy:

In such intractable situations of conflict between policies of internal and external balance, what should the authorities concerned do? Should they adopt financial policies for external balance, allowing their national incomes to be excessively inflated or deflated and trusting that this will lead to a rise or fall in their whole wage and cost structures which will thereby restore internal balance as well? Or should they adopt financial policies for internal balance, inflating or deflating their domestic expenditures sufficiently to maintain the desired level of demand for their own products regardless of the immediate effect upon their balances of payments? And if so, should they then let the exchange rate between their currencies change as a means of regaining external balance without sacrificing internal balance? Or should they maintain their fixed exchange rates and adjust their balances of payments by direct controls over their international transactions so as to restore

equilibrium to their balances of payments without disturbing their internal balance? (Meade, 1952, p. 124.)

Nowhere do we find Meade discussing managed floating exchange rates, fixed-but-adjustable pegs, or the like; his impossibility result disqualifies them, so he does not try to rationalize or implement them.

Mundell revisited the problem of targeting internal and external balance in 1960. His result is distinguished from Meade's by the adoption of an additional impossibility criterion, namely Samuelson's correspondence principle. Samuelson argued that 'the problem of stability of equilibrium is intimately tied up with the problem of deriving fruitful theorems in comparative statics', (Samuelson, 1983, p. 258) or that, without a satisfactory dynamic theory, static results were meaningless. Put another way, unless one could be assured that the dynamics of the system were such that the system would eventually return to equilibrium following a disturbance, one could say nothing at all about comparative statics. Hence, Mundell adopts Samuelsonian dynamics in distinction to Meade.

In 1960, a consensus of economists had concluded that, because prices were inflexible and full employment was a touchstone of public policy, exchange rates should be floated to allow full pursuit of internal balance. Mundell offered the following diagnosis of the problem:

The argument is based on money illusion: The community is unwilling to accept variations in real income through changes in money prices, but it will accept the same changes in real income through adjustments in the rate of exchange. A flexible exchange rate system may then be interpreted as a device for providing a more acceptable means (than employment changes) of altering the real income of the community. But what if money illusion is absent? Then, it is argued, there is no reason for changing to a system of flexible exchange rates: "If internal prices were as flexible as exchange rates, it would make little economic difference whether adjustments were brought about by changes in exchange rates or by equivalent changes in internal prices.

...[It] will be demonstrated that although this view, under certain circumstances, may be valid in statics, it is entirely erroneous in dynamics. (Mundell, 1960, p. 1952.)

Hence, what began as merely a methodological consideration moved to the fore as a decision with critical implications for the policy results obtained. There is no need to recapitulate Mundell's familiar argument and results. The discussion is only to point out that the application of Samuelson's correspondence principle brought with it a new policy analysis, which could justify a world of fixed exchange rates just as easily as a world of floating exchange rates. The correspondence principle qualifies as an impossibility criterion for *ex ante* policy analysis because, arguably, no comparative statics results can be characterized without it.

Monetary policy instruments may thus only be directed at the goal of internal or external balance. However, what if we introduce the instrument of fiscal policy and assign it to the objective not being targeted by the central bank? Tinbergen's (1952) analysis suggests that with two instruments and two objectives, there exists a policy mix to target both objectives. However, Mundell (1962) demonstrated that it is not true that any policy mix will work. Indeed, he showed that it is not possible to characterize a stable equilibrium where central bank policy is targeted at internal balance and fiscal policy is targeted at external balance – another theoretical impossibility result, which produces the principle of effective market classification in the sphere of possible policymaking.

How the institutionalist critique interacts with the impossibility criterion

It is indicative of the high quality of Meade's (1952) analysis that we need not even go into detail about how institutions enter the theory. His theory can be understood in transaction-level detail, in line with the methodological prescriptions of new institutional economics. ('The transaction is the basic unit of analysis, whereas orthodoxy is concerned with composite goods and services' (Williamson, 1996, p. 6).)

The resolution of a theory into transactions is not always so easy, however. Returning to the result of Kydland and Prescott (1977), which does satisfy the impossibility criterion, we should ask to what extent the maximization of a social objective function, subject to strategic interactions between policymakers and the public could be resolved into a series of transactions between the government and the governed. The problem becomes fiendishly difficult once we introduce uncertainty into the analysis. Kydland and Prescott (1977, p. 475) admit that uncertainty is not a central concern of their essay, but note that '[as] with Arrow-Debreu state-preference theory, one need only define the decision elements to be functions contingent upon observables to incorporate uncertainty...'. However, is it really so easy to imagine the central bank writing, as it were, complete contracts with every member of the population so as to achieve optimal policy in every state of the world? Indeed, 'we cannot fully describe an optimal monetary arrangement because we do not know all possible states of the world and hence the policy rule to which we would like to commit' (King, 2004, p. 4). Hence, even the very powerful Kydland–Prescott analysis does not translate unambiguously into a set of policy recommendations, because we cannot imagine the transactions of an institution governed by that analysis.

Returning to the analysis by Mundell (1960) of the proper target for the monetary policy instrument, it is important to note that his theory does not rule out the possibility of the central bank achieving internal balance. It does assume, however, that the proper transmission mechanisms are in place for central bank actions to have a predictable directional effect on the interest rate. At this point, the institutionalist critique enters to add any needed restrictions on the available theory. If the central bank has little control over the

interest rate due to institutional shortcomings, the internal balance objective cannot be attained.

Thus, one need not take the institutionalist critique to mean that economic theory can produce no universal propositions; rather, one needs to be diligent about comparing the universe under analysis to the universe assumed in the theory. Therefore, an overarching impossibility hypothesis ought to be advanced in line with the institutionalist critique:

Proposition three

If the markets on which a theoretical result is predicated do not exist in a given geographic area, then it is impossible to achieve the theoretical result in that geographic area.

Conclusion

Combining the new institutionalist critique with an impossibility criterion offers a powerful framework with which proposals for monetary reform can be analyzed. Furthermore, the analysis takes place *ex ante*, offering the opportunity to identify problematic policy proposals before they are put into practice. While the objection will rightly be raised that economic theory *itself* is (or ought to be) *ex ante* policy analysis, the interplay between empirical investigation and theory development suggests that theory might only be accumulated *ex post* policy analysis within a particular discipline. Thus, adopting this sort of *ex ante* analysis has the potential to bear nontrivial fruit.

The most important implication of this analysis for current policy debates is that inflation targeting no longer appears to be readily applicable in developing countries as a foundation for monetary reform. This perspective contrasts sharply with that of the International Monetary Fund, which recently proposed that all Latin American central banks target inflation, 'The experience already gained [in Latin America] has shown that inflation targeting, combined with exchange rate flexibility, presents a viable and robust monetary regime for countries in the region' (Singh *et al.*, 2005, p. 59). The theory underlying the IMF's prescription fails to pass over both the institutional and the impossibility hurdles. We have presented evidence that suggests that we should take those hurdles seriously. Experiences in Turkey, Brazil, and Iraq, among others, lend credence to the idea that reforms will take a potentially unlimited amount of time if they do not meet the criteria.

Finally, although monetary reform is the primary focus of this paper, there does not seem to be anything in the analysis that would prevent its generalization to other areas of policy. Further investigation into these matters in other policy areas would be potentially enlightening and serve as a check on the robustness of the propositions offered here.

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