

POLITICAL ECONOMY RESEARCH INSTITUTE

**PERI**

University of Massachusetts Amherst

**Alternatives to Inflation Targeting  
Monetary Policy for  
Stable and Egalitarian Growth:  
A Brief Research Summary**

**Gerald Epstein**

2003

**POLITICAL ECONOMY  
RESEARCH INSTITUTE**

10th floor Thompson Hall  
University of Massachusetts  
Amherst, MA, 01003-7510  
Telephone: (413) 545-6355  
Facsimile: (413) 545-2921  
Email: [peri@econs.umass.edu](mailto:peri@econs.umass.edu)  
Website:  
<http://www.umass.edu/peri/>



**WORKINGPAPER SERIES**

Number 62

*Alternatives to Inflation Targeting Monetary Policy  
For Stable and Egalitarian Growth:  
A Brief Research Summary*

**Gerald Epstein**  
**Professor of Economics and**  
**Co-Director, Political Economy Research Institute (PERI)**  
**University of Massachusetts, Amherst**

**July, 2003**

This paper has been prepared for the First Annual Conference for Development and Change (ACDC) -- *Trespassing In Development Theory and Practice: Towards a New International Policy Agenda*, Antigua, Guatemala, July 28- July 30, 2003. It is a short summary of research reported in Epstein (2000, 2002), Epstein, Grabel and Jomo (2002), and Epstein and Power (2003). The paper has benefited from the excellent research reported in Pollin (1993 and 1998) as well as from participants' comments in seminars where these ideas have been presented, including the IDEAS conference in Chennai, India, the NEDLAC conference at Johannesburg, South Africa, and at Gender and Macroeconomics Conferences at the Levy Institute and University of Utah, in Salt Lake City. Some of this research was supported by grants from the Ford and Rockefeller Foundations to the Political Economy Research Institute (PERI). Of course, I am responsible for remaining errors and omissions.

## Abstract

Many countries in the developing world have adopted an approach to monetary policy that focuses on maintaining a low level of inflation, to the exclusion of other important objectives such as employment generation, increasing investment or reducing poverty, despite the widespread evidence that moderate levels of inflation have few or no costs. Some have even adopted formal “inflation targeting”, an approach which commits the central bank to hitting a fairly rigid inflation target, often as low as 2%. However, this focus has led to slower economic growth and lower employment growth, without succeeding in lowering inflation at a smaller economic cost than traditional methods of inflation fighting. Clearly, it is time to find an alternative to inflation targeting.

This paper presents the *real targeting* approach to monetary policy, which I argue is superior alternative to the costly and ineffective inflation targeting approach. Under this real targeting approach, central banks are given a country appropriate target such as employment growth, unemployment, real GDP or investment, usually subject to an inflation constraint. Given these two targets – the real target and the constraint – the central bank will find multiple tools to reach these targets, designing new tools and rediscovering old tools such as asset based reserve requirements and other credit allocation techniques. The real targeting approach might also be complemented by other policies, such as capital management techniques to deal with possible capital flight. The real targeting approach has the potential to make central bank policy more transparent, more accountable, and more socially useful than most currently existing central bank structures.

## I. Introduction

During the last decade, central banks in developing countries have increasingly adopted approaches to monetary policy that focus on lowering the rate of inflation with little regard to their impact on “real factors” such as poverty, employment, investment or economic growth. Among these approaches, “inflation targeting” is the most prominent (Epstein, 2002). Following this strategy, central banks attempt to hit a target range for inflation while mostly ignoring the impact of monetary policy on other economic variables. As of 2001, more than nineteen countries had adopted inflation targeting and more countries are considering doing so (Mishkin and Schmidt-Hebbel, 2001). Even where countries do not implement *formal* inflation targeting, many of them – under pressure from the IMF and other organizations – still orient policy almost exclusively to fighting inflation.

In many countries, inflation targeting has generated significant costs – slow growth, sluggish employment generation and high real interest rates – while, yielding, at

most, minor benefit. Among the greatest disappointments for proponents of inflation targeting has been its apparent inability to reduce the so-called *sacrifice ratio*, the unemployment costs of fighting inflation (Epstein, 2000).

This focus on fighting inflation to the exclusion of other ills is particularly puzzling in light of the well-known evidence that, assuming inflation is within moderate levels – less than 20-30% – as there are no negative consequences of inflation on important real variables (Bruno and Easterly, 1996; Epstein, 2000). By contrast, the costs of large scale unemployment and slow growth are high and well understood. South Africa, for example, where the unemployment rate is above 40%, seems singularly ill suited for such a policy, yet the South African Reserve Bank is an enthusiastic supporter of inflation targeting (Epstein, 2002)

Hence, alternatives to this destructive monetary policy must be developed and promoted. Indeed, a central component of any macroeconomic policy framework which attempts to tackle the ills of poverty, high unemployment and slow economic growth in developing countries must develop a feasible and efficient framework for conducting monetary policy that is oriented to these variables, while, to be sure, keeping inflation and other problems in check.

Along these lines, this paper proposes a *real targeting* framework for central bank policy. In this approach, central banks choose a real target that is appropriate for that particular country – it will normally be poverty levels, employment growth, investment, or real economic growth – and choose a set of monetary policy instruments to achieve that target. Central to this strategy is the recognition that in order to achieve the chosen target, there will normally be other economic constraints that must be confronted, including, most notably, inflation and balance of payments or exchange rate constraints (Pollin, 1998). In this situation, the central bank will normally have to hit multiple targets and constraints and therefore – taking into account the classic Tinbergen analysis – it will need to implement several tools of monetary policy, including, perhaps, some new ones.

This *real targeting* framework has a number of important advantages. First and foremost, it places front and center the economic variables that have the most immediate and clearest association with social welfare. The central bank will be forced to identify this target and then reach it, and if it doesn't do so, both explain why it failed and how it will improve in the next period. Second, given the public pressure to reach this target, the central bank will have significant incentives to invest in research and other activities to improve its understanding and tools to reach this real target. Third, given that it will need to reach this target and other constraints, it will need to develop new tools of monetary policy. For example, if a central bank must hit an employment target subject to an inflation and balance of payments constraint, then – in addition to interest rate policy – it might explore asset allocation strategies to encourage banks to lend more to high employment generating uses, and capital control techniques to manage balance of payments problems (Pollin, 1993; Epstein, Grabel and Jomo, K.S., 2003). Fourth, a real targeting approach lends itself naturally to a more democratic, transparent and accountable central bank policy that serves the genuine needs of the majority of

countries' citizens, rather than the minority that typically benefits from the combination of slower growth, low inflation, and high real interest rates. Fifth, the framework is much more conducive to tailoring monetary policy to the specific needs of different countries. For example, if a country has a particular problem with generating good jobs for women, or more jobs in a particular region of the country, then the real targeting approach can target women's employment or more employment in a specific region (along with more employment generally) and devise instruments to achieve those objectives. In short, the *real targeting approach* to monetary policy is likely to be more relevant, flexible and effective than inflation targeting.

The rest of this paper is organized as follows: the next section briefly summarizes the inflation targeting approach to monetary policy and evaluates the evidence concerning its impacts; section three presents the real targeting approach to monetary policy, including its associated targets and instruments, and describes the benefits that can result from such a strategy. After that, section four describes the complementary policies which need to accompany the real target approach while section five considers some possible objections to real targeting. The final section briefly discusses future research required to develop this approach.

## II. A Critique of Inflation Targeting

According to its advocates, "full fledged" inflation targeting consists of five components: absence of other nominal anchors, such as exchange rates or nominal GDP; an institutional commitment to price stability; absence of fiscal dominance; policy (instrument) independence; and policy transparency and accountability (Mishkin and Schmidt-Hebbel, 2001, p. 3; Bernanke, et. al. 1999).<sup>1</sup> In practice, while few central banks reach the "ideal" of being "full fledged" inflation targeters, the vast majority still focus on fighting inflation to the virtual exclusion of other goals. The overriding announced goal of inflation targeting central banks is typically "price stability", usually defined to be an inflation rate of about 2%. (Ibid., p. 99). In addition, inflation targeting is usually associated with changes in the law that enhance the independence of the central bank (Ibid., p. 102; Mishkin and Schmidt-Hebbel, 2001, p. 8).

"Inflation targeting" is a particular example of the "neo-liberal" approach to central banking. Neo-liberal central banks attempt to: keep inflation at a very low level; reduce central bank support for government fiscal deficits; help manage the country's integration into world trade and financial markets; dramatically reduce the influence of democratic social and political forces on central bank policy.

The major claims made by advocates of inflation targeting are that it will<sup>2</sup>:

---

<sup>1</sup> The oddest idea in this list is the notion that inflation targeting increases "accountability" considering that it requires the central bank to follow a relatively rigid rule not subject to input from the bulk of the population.

<sup>2</sup> See Berneke, et. al. (1999) and Mishkin and Schmidt-Hebbel (2001) for recent surveys.

- Reduce the rate of inflation
- Enhance the credibility of monetary policy
- Reduce the *sacrifice* ratio associated with contractionary monetary policy
- Help to attract foreign investment

The evidence on these claims is mainly in the negative. It is true that countries that adopt inflation targeting often achieve lower inflation rates, but they do not do so at any lower cost than other countries in terms of forgone output. That is, inflation targeting does not appear to increase the credibility of central bank policy and therefore, does not appear to reduce the sacrifice ratio. (See Bernanke, et. al, 1999 and Epstein, 2000, for detailed surveys of the literature). Central banks that reduce inflation do so the old-fashioned way: by raising interest rates, causing recessions or slow growth, and by throwing people out of work. Moreover, there is no evidence that countries adopting inflation targeting manage to attract more useable foreign investment.

There is a further, more basic problem with inflation targeting and the neo-liberal approach to central bank policy more generally. Why is there such a focus on fighting inflation to the exclusion of other goals? As reported in Bruno and Easterly (1996) and Epstein (2000, 2002) there is a great deal of evidence that moderate rates of inflation, inflation up to 20% or more, has no predictable negative consequences on the real economy: it is not associated with slower growth, reduced investment, less foreign direct investment, or any other important real variable that one can find. Some have argued that inflation makes income distribution less equal and/or hurts the welfare of the poor in developing countries. More research needs to be done in this area because current work misses a fundamental point: the issue is not the impact of inflation per se, on the poor, but, rather, the impact of *monetary policy designed to reduce the rate of inflation and to keep it low* compared with the impact of monetary policy designed to generate more employment or more rapid economic growth. The relevant question is, is this kind of monetary policy bad for the poor? On this question, there is no clear consensus at all, primarily because the question has not been posed in this way.

If moderate rates of inflation have no obvious costs, then what can explain central banks' obsession with inflation fighting, and the relentless promotion of inflation targeting and related policies by the IMF and other international economic organizations? One likely explanation is that a focus on fighting inflation and keeping it low and stable is in the interest of *rentier* groups in these countries. Epstein and Power (2003) present new calculations of rentier incomes in the OECD countries supporting the view that in many countries, higher real interest rates and lower inflation increase the rentier shares of income.

Given the failure of inflation targeting and neo-liberal central bank policy more generally, an alternative policy and policy structure, one that contributes to socially useful macroeconomic policy, must be developed.

### III. Employment Targeting and Central Bank Policy

An alternative targeting approach would target “real” variables that contribute directly to economic welfare of the majority of the country’s residents. The advantage of a targeting approach is that it requires the central bank to identify its goals, makes transparent whether it is reaching that goal, and therefore *potentially* increases the accountability of the central bank to the general public. Of course, to make accountability a reality, additional political structures must be in place as well, an issue that is briefly discussed at the end of this paper.

What real variable should be targeted? This, obviously, will depend on the particular circumstances of the country involved. For some countries with a very large unemployment or underemployment problem, such as South Africa, *employment targeting* is a good candidate. In other cases, investment growth or real GDP growth would be more appropriate. Unlike the claims made by proponents of *inflation targeting*, the real targeting approach recognizes that one size does not necessarily fit all.

In this section I will develop one example, an *employment targeting* approach to monetary policy. Other examples, such as investment or real GDP targeting would share many of the components described here.

#### *Employment Targeting*

With employment targeting, central banks would choose, or be given by the democratic authorities, an employment, employment growth or unemployment rate target. The central bank would be required to devise means (i.e., instruments) for achieving that target. If it fails to achieve the target during the allotted period, it would be required to explain why the target was not achieved, and to develop mechanisms for achieving the employment target in the next period. Targeting, implemented in this way, contributes to central bank transparency and accountability, and, in that sense, this approach takes an important leaf from the “inflation targeting” book.

As I mentioned earlier, the evidence indicates that if inflation gets high enough, it can create significant economic and social costs. Hence, no central bank can entirely ignore inflation. So in the employment targeting approach, central banks must achieve their employment target, *subject to an inflation constraint*. What the inflation constraint is should depend on the particular circumstances of the country involved. But whatever the level, as long as the constraint is binding or could be binding in a given period, an inflation constraint means that the central bank will essentially have two targets – employment and inflation. And as Jan Tinbergen famously put it, policy makers need as many independent instruments as they have independent targets.

Central banks used to have many tools of monetary policy (of which I will speak more below.) But with the rise of neo-liberalism, including financial liberalization and the elimination of capital controls in many countries, most central banks have dramatically reduced the number of independent monetary tools they use, often to only one, namely, a short term interest rate. This one tool will not generally be sufficient to reach both an employment target and an inflation constraint. Hence, the central bank will have to develop new tools (or dust off old ones) in order to implement this policy.

But the need for learning and innovation by the central bank will be much greater than this for a simple but profound reason: most central banks don't really know very much about how to generate employment. The reasons for this are many, but the most important one is quite simple: for many years now, most central banks didn't have to worry about generating employment because they were pressured only to be concerned about inflation (or the exchange rate). As a result, central banks (and associated economics researchers the world over) have devoted millions of dollars and countless hours on economic analysis and modeling to figure out the relationship between monetary policy and inflation while spending virtually nothing on discovering the relationship between monetary policy and employment generation. So not only will the central bank have to develop new instruments because they have more targets than instruments, but they will have to develop new instruments because the target is "new" and unfamiliar.

If this policy is implemented, will central banks actually engage in this research and develop this better understanding of the connection between monetary policy and employment in their countries? The answer is yes, because they will be *required* to meet these targets. If they do not meet them, they will have to explain why they did not do so, and how they are going to meet them in the next period. Careers will be on the line. Nothing focuses one's attention like the hangman's noose, and the central bank will soon find itself in this situation. The result will be that the research economists at the central bank will start doing research on how to use monetary tools to generate more employment; they will consult with business, labor, organizations from the "informal economy", maybe even NGO's, (to say nothing of the labor ministries in their own government) to try to develop approaches to generating more employment. Economists who develop a new and better understanding of the interest rate/employment nexus will be promoted, whereas heretofore, many were probably not even allowed to do such research. In fact, this re-orientation in research, and even a change in the culture of the central bank, will be one of the most important and long-lasting results of the re-definition of the central bank target.

As central banks learn more about how to use monetary policy to increase employment, and as they develop new tools to reach this target subject to an inflation constraint, they might discover that they are *re-inventing* tools that were part of the standard central bank tool kit in the developing world in the 1950's, 60's and 70's.



These tools include credit allocation policies, support for development banks, and regulations in support of development lending. For the most part, policies such as these that were largely eliminated in the 90's – sometimes for good reason, sometimes not – will be re-discovered, modernized and made better.

### *New Targets, New Instruments*

Central banks have many types of instruments they can develop or re-discover: these include quantitative regulations of financial institutions such as the direct credit allocation regulations, price based regulatory incentives for lenders such as asset-based reserve requirements, direct lending to financial institutions specializing in employment generation, and last, but far from least, macroeconomic policy tools such as open market operations and the direct manipulation of interest rates.

Direct credit allocation would involve the central bank establishing quotas which banks and other financial institutions would have to achieve in terms of certain types of lending: in this case, lending for employment generation. While this type of policy has been implemented in the past, many economists and policy makers generally prefer more price-based measures, which are available as well.

An important example of a price-based measure are so-called “asset-based reserve requirements” (eg. Pollin, 1993; Palley, 2000, 2003). With a program of asset-based reserve requirements, the central bank establishes differential reserve requirements that banks and other financial intermediaries must maintain, depending on the assets invested in by the banks. For example, the central bank can impose lower reserve requirements for favored assets such as loans that generate employment. Because it costs something to hold below-market-rate reserves, banks will have an incentive, all else equal, to lend more for the purposes desired by the central bank.

Another tool involves direct lending by the monetary authority to financial institutions that specialize in the appropriate kind of lending. For example, the central bank could lend to a development bank that specializes in loans for employment generation, or that specializes in lending to other lending institutions that do this. Or – and this may be less likely or less desirable – the central bank could lend directly to firms or other institutions generating employment. Another tool is that the central bank could provide loan guarantees, or help banks securitize lending for employment generation, much as the U.S. government helps Fannie Mae and Freddie Mac securitize lending for the housing market.

### *Macroeconomic Policy*

These credit allocation and other *micro-based* tools must be complemented by *macroeconomic* monetary policies that are conducive to successful employment generation. The point here is that an enabling macro environment is essential for these more micro techniques to work. This is because there must be a demand for credit for

employment generation, as well as the likelihood that such employment will generate profitable production, which depends on a buoyant economy. For both of these conditions to hold, there must be an expansionary macroeconomic environment, which can be facilitated by an appropriate interest rate policy. Of course, if the country approaches its inflation constraint, then short term interest rates might need to be oriented toward limiting inflationary tendencies. But if doing this interferes with hitting the employment targets for a significant period of time, then other ways of dealing with inflation might need to be found (see below).

### *Defining Employment*

So far I have assumed that the definition of employment is clear. However, as is well known, it is not. By employment do we need any kind of employment? Or formal sector employment? Employment of men? Or female employment? Employment anywhere in the country or employment in particular regions? Unless our monetary policy tools are completely neutral with respect to these categories, it makes a difference how we define the employment target.

While this could be seen as a problem for the approach, in fact it is a strength and opportunity. The employment targeting approach is flexible enough that those determining the can define employment in any way that makes sense for that society. So, for example, if there is a particular concern about women's employment, then they can specify a target for overall employment as well as a target for women's employment. The trick then will be to tailor the instruments to meet that target. Perhaps the central bank will choose to lend to financial intermediaries that have a special expertise in lending for female employment (including, perhaps, self-employment). This, then, is an example of how employment targeting could implement a gendered approach to central bank policy, and example that can be extended to other categories of workers or regions.

## **IV. Complementary Institutions and Additional Considerations**

Because a more expansionary monetary policy *might* lead to other constraints, a central bank that is oriented toward increasing employment is likely to require complementary policies to be successful.<sup>3</sup> These problems might include excessive inflation and capital flight. In addition, further structural changes will be necessary to make central bank policy truly accountable. In this section I deal briefly with each of these points.

### *Inflation*

The monetarist view that inflation is always and everywhere a monetary phenomenon is false. More generally, excessive inflation is not likely to be a prominent problem resulting from an employment targeting approach, as long as other economic

---

<sup>3</sup> This section partially draws on Pollin (1998).

policies of the government, including fiscal policy, are responsible, and as long as the economy is not subject to excessive *external* shocks. However, there could be occasions when excessive inflation rears its ugly head, and economic policy must be prepared to deal with it.

I already discussed monetary policy tools to limit inflation. As the central bank develops new tools to enhance employment growth, it can, if necessary, use traditional monetary policy tools such as short-term interest rates, to reach its inflation constraint. In some cases, when using interest rates to fight inflation without interfering with the employment growth target might not be feasible, the central bank might need to consider other policies, such as temporary incomes policies. The combination of policies required will vary depending on the country and the situation.

### *Capital Flight*

Foreign and domestic investors might speculate against the central bank policy, leading to capital flight or, more generally, downward pressure on exchange rates and foreign exchange reserves. Capital management techniques, such as capital controls, might be necessary to insulate the economy from such speculative flows. As Epstein, Grabel and Jomo (2003) show, countries use a variety of such techniques successfully to manage their economies. In fact, a wide range of economies –from “free market” Singapore to state managed People’s Republic of China – use forms of capital management techniques. These techniques can reduce downward pressure and the instability in exchange rates potentially resulting from employment targeting. This will not only help to stabilize the economy, but is also likely to reduce inflationary pressures that could result from such exchange rate movements.

### *Democratizing Central Bank Policy*

One of the major claims that advocates of inflation targeting make for the approach is that it will enhance the transparency and accountability of central bank policy. However, this is disingenuous – there is no discussion in this literature of what such accountability means (does it mean the “public” can choose between a target of 2 % inflation or 3% inflation?) or how accountability could be implemented. It is clear, however, that no gimmick (such as a targeting approach) can generate true accountability by itself. Supporting institutions are required to make it a reality.

Similarly, while the employment targeting approach is ideally suited to facilitate accountability, it won’t do so automatically. It is ideally suited because the central bank will find that it will need the cooperation of labor and business groups, women’s groups, NGO’s and others if it is going to effectively use monetary policy to generate employment. But unless citizens and labor groups’ input into central bank decision making is institutionalized, even the employment targeting incentives will be unlikely to overcome the institutional inertia existing in most central banks that would make them quite reluctant to engage with such groups. Hence, institutions such as *citizen’s advisory*

*councils*, similar to those that exist in the U.S. Federal Reserve System, but with more real power, are likely to be necessary to create *real* accountability, even when an employment targeting approach is accepted.

## **V. Possible Objections**

Some will raise objections to the employment targeting approach specifically, or the real targeting approach more generally. The most common objection likely to come from mainstream economists is that monetary policy is incapable of affecting real variables, at least in the “long-run”. To adequately address this objection would require a separate paper, but here I would like to mention only a few key points. There are both theoretical and empirical issues raised by this objection which need to be addressed. On the theoretical side, the notion that monetary policy cannot affect real variables is based on an incoherent Walrasian macroeconomic model common to neo-classical macroeconomics, a system that assumes away problems of uncertainty and unemployment. In Marxian, Keynesian, Kaleckian, Post-Keynesian and even New Keynesian approaches, there are strong reasons to believe that monetary policy can have long-run, real effects.

As an empirical matter, there is a vast literature. It includes strong evidence that monetary policy has real effects (see Epstein, 2000, for a brief survey.)

## **VI. Conclusions**

There is much work to be done to specify and devise practical real targeting approaches for a range of countries. Before central banks and politicians will accept such a change in policy structure, economists need to conduct research to specify how such a policy would likely work in a range of country cases. I believe that such studies would demonstrate that a real targeting approach is not only feasible, but would dramatically increase the social efficiency of central bank policy in developing countries.

## REFERENCES

- Dymski, Gary, Gerald Epstein and Robert Pollin. 1993. *Transforming the U.S. Financial System: Equity and Efficiency for the 21<sup>st</sup> Century*. Armonk, NY: M.E. Sharpe.
- Baker, Dean, Gerald Epstein and Robert Pollin. 1998. *Globalization and Progressive Economic Policy*. Cambridge, UK: Cambridge University Press.
- Bernanke, Ben S., Thomas Laubach, Adam S. Posen and Frederic S. Mishkin. 1999. *Inflation Targeting: Lessons from the International Experience*. Princeton, NJ: Princeton University Press.
- Bruno, M. and W. Easterly, 1996. Inflation and Growth: In Search of A Stable Relationship. *Federal Reserve Bank of St. Louis Review*, 78 (3), pp. 139-46.
- Corbo, Vittorio, Osca Landerretche and Klaus Schmidt-Hebbel. 2001. Does Inflation Targeting Make a Difference? Central Bank of Chile Working Papers, No. 106. <http://www.bcentral.cl/Estudios/DTBC/doctrab.htm>
- Epstein, Gerald. 1993. Monetary Policy in the 1990's: Overcoming the Barriers to Equity and Growth", in Gary Dymski, Gerald Epstein and Robert Pollin,eds., *Transforming the U.S. Financial System: An Equitable and Efficient Structure for the 21st Century*. Armonk, NY: M.E. Sharpe.
- Epstein, Gerald. 2000. Myth, Mendacity and Mischief in the Theory and Practice of Central Banking. [www.umass.edu/peri](http://www.umass.edu/peri)
- Epstein, Gerald. 2002. Employment-Oriented Central Bank Policy in an Integrated World Economy: A Reform Proposal for South Africa. [www.umass.edu/peri](http://www.umass.edu/peri)
- Epstein, Gerald and Dorothy Power. 2003. "Rentier Incomes and Financial Crises: An Empirical Examination of Trends and Cycles in Some OECD Countries", *Canadian Journal of Development Studies*, June.
- Mishkin, Frederic S. and Klaus Sschmidt-Hebbel. 2001. One Decade of Inflation Targeting in the World: What Do We Know and What Do We Need to Know? *NBER Working Paper*, 8397.
- Palley, Thomas I. 2000. "Stabilizing Finance: The Case for Asset-Based Reserve Requirement", *Financial Markets and Society*, August,
- Palley, Thomas I. 2003. "Asset Price Bubbles and the Case for Asset-Based Reserve Requirements", *Challenge Magazine*, May-June.

Pollin, R. N. 1993. Public Credit Allocation Through the Federal Reserve: Why it is needed; How it should be done. in Dymski, Epstein, and Pollin, eds. *Transforming the U.S. Financial System*.

Pollin, R.N., 1998. Can Domestic Expansionary Policy Succeed in a Globally Integrated Environment? An Examination of Alternatives. In D. Baker, G. Epstein and R.N. Pollin, eds. *Globalization and Progressive Economic Policy*. Cambridge: Cambridge University Press.