The Levy Economics Institute of Bard College

Policy Note

2008 / 3

WHAT'S A CENTRAL BANK TO DO? POLICY RESPONSE TO THE CURRENT CRISIS

L. RANDALL WRAY

It just gets worse. June home sales fell sharply (down 15.5 percent from the previous year), and house prices have already fallen by more than 16 percent since their peak in summer 2006—and are expected to continue to plummet until they have lost a quarter or more of their value (Bajaj and Grynbaum 2008). Almost 9 percent of home mortgages (nearly five million) are past due or in foreclosure. Treasury Secretary Henry Paulson expects 2.5 million new foreclosures this year (Labaton 2008). In May alone, 261,255 residential mortgage holders received at least one foreclosure notice; based on past experience, 50–60 percent of these will lose their homes (Zibel 2008). Homeowner equity continues to disappear (and mortgages go "underwater" as debt exceeds the home's value), wiping out wealth and generating skyrocketing defaults on home equity loans and other secondary loans against real estate.

While problems began with subprimes, they quickly spread to Alt-As and now include prime mortgages, so that no portfolio of mortgages is safe—hence, the need to bail out Fannie Mae and Freddie Mac. There is a growing consensus that losses on all mortgages will exceed $1 trillion (Goodman 2008). And financial losses are spreading far beyond real estate, to include commercial loans and paper, bond insurers, credit card debt, Sallie Mae's student loans, retailers like Home Depot, auto leases and debt, municipal bonds, and a wide array of esoteric financial instruments—such as auction rate securities and special purpose vehicles. Mortgage rates are spiking (above

---

Senior Scholar L. RANDALL WRAY is professor of economics at the University of Missouri–Kansas City and director of research at the Center for Full Employment and Price Stability.

6.7 percent on 30-year fixed-rate, conforming loans as of July 23), and, more generally, interest rate spreads remain wide, as financial players shun private debt in the rush to safe Treasury securities. Labor markets continue to weaken as firms shed jobs, boosting the official unemployment rate to 5.5 percent. State tax revenues have plummeted, driving budgets deeply into the red. Twenty states had shortfalls for fiscal year 2008, and 31 are expected to run deficits during 2009; California Governor Arnold Schwarzenegger has been forced to seek a temporary reduction of all state employee pay to the federal minimum wage (NCSL 2008, Yamamura and Ortiz 2008). In March, the dollar fell to new record lows against the euro and other currencies. The only bright spot had been the growth of U.S. exports, but now Euroland is collapsing, Japan is slipping back into recession, and even Chinese growth is slowing—none of which bodes well for U.S. sales abroad. Commodities prices have boomed, most noticeably in oil and farm products, fueling inflation and adding to consumer distress as economists resurrect the old "misery index" that sums inflation and unemployment.

What is a central bank to do? So far, the Federal Reserve (Fed) has met or exceeded the market's anticipations for rate cuts. It lowered the "frown costs" of borrowing by reducing the penalty spread on loans relative to its fed funds target, by encouraging some of the biggest banks to borrow unneeded reserves, and by adopting new procedures for auctioning reserves. It has allowed banks to offer securitized mortgages as collateral against borrowed reserves. It arranged a takeover of Bear Stearns, absorbing virtually all the risks, and in the aftermath of that fiasco, it opened the discount window to a broad range of financial institutions to guard against future liquidity problems. It promoted more favorable refinancing terms for households burdened with onerous subprime mortgage terms, and promulgated new rules to protect future home buyers. The Fed helped to formulate a rescue plan for Freddie and Fannie. Chairman Ben Bernanke even supported the fiscal stimulus package that will increase the federal budget deficit—something that is normally anathema to central bankers. Most importantly, the main Fed officials (Bernanke, Frederic Mishkin, and Donald Kohn) consistently argued that while they are carefully monitoring inflation pressures, they will not reverse monetary ease until the fallout from the subprime crisis is past.

There is no doubt that Chairman Bernanke's own research expertise gained through years of careful study of the Great Depression has made him particularly attuned to the dangers facing our economy. He has projected that financial market problems will continue to plague us well into next year, and has outlined additional steps the Fed will take (Labaton 2008). These include extension of lending to Wall Street's biggest investment banks, Congressional approval of broader Fed authority to monitor financial markets, and new rules on exotic, high-cost mortgages aimed at riskier borrowers.

Unfortunately, the policy is not working—the economy continues to weaken, the financial crisis is spreading, and inflation is accelerating. That does not necessarily make the policy wrong, but it surely indicates that it is not up to the task at hand. The problem is that policymakers do not recognize the underlying forces driving the crisis, in part because they operate with an incorrect model of the operation of our economy. This Policy Note will briefly summarize that model, will offer an alternative view that is based on Hyman Minsky's approach, and will outline an alternative framework for policy formation.

The Model Underlying the Fed's Policy: It's All About Expectations Management

Over the past decade and a half, a "new consensus" model of the economy and of the appropriate role for central banking has developed. This model replaced Milton Friedman's monetarism, which had earlier displaced the 1960s Keynesian model. Unlike the orthodoxy of the 1970s–80s, which advocated rules over discretion while rejecting government attempts at fine-tuning the economy, the New Consensus advocates central bank activism. Rejecting a money growth rule, the New Consensus favors a modified Taylor Rule, according to which the central bank reacts to demand gaps—raising its target interest rate if aggregate demand is above capacity and lowering the target if demand is too low. Its ultimate quest is to guide the economy into a "Goldilocks" sweet spot: neither too hot to generate inflation nor too cold to cause unemployment. There is believed to be some "neutral" interest rate that is consistent with Goldilocks performance, but, unfortunately, the neutral rate varies over time and can only be discovered after the fact—as various Fed officials have said, we will know it only when we reach it (Wray 2004).

Further, policymaking is made more difficult because of lags and inertia. Once under way, fighting inflation is costly because expectations of rising prices will be built into negotiations—for example, workers will demand higher wages in forward-looking contracts on the expectation of continued inflation. This means that the Fed will have to engineer a sharp contraction to open a large demand gap (operating the economy far below capacity) to wring inflation out of expectations. This is believed to be the lesson learned from the experience of the Paul Volcker years, when a deep and long recession with double-digit unemployment was required to bring inflation down to tolerable levels in the early 1980s.

Hence, even as the Fed seeks the neutral interest rate, it must manage inflation expectations. Indeed, the impact of rate changes is said to come, not directly from borrowing costs, but through the impact on expectations. Even a small, 25-basis-point rate hike can nip an inflationary spiral in the bud by letting markets know the Fed is ever watchful for signs of inflation. If policy can keep inflation expectations low, it can allow the economy to grow faster—and unemployment to fall farther—without setting off inflation. However, if expectations get out of control, then the Phillips curve trade-off comes back with a vengeance. So, the Fed's ultimate goal is to manage expectations to reduce inflation so low that it plays no role in economic decision-making.

Most observers believe that the Fed under Alan Greenspan's leadership was able to do just that. Chairman Bernanke even wrote of "the great moderation," in which apt policymaking by the Fed and other central bankers had successfully reduced inflation, allowed robust growth, and reduced economic instability. While there were occasional shocks to the economy (the Russian default, Long-Term Capital Management crisis, Enron fiasco, and dot-com bust), quick and competent policy intervention allowed rapid recovery. Further, fine-tuning of the economy had significantly reduced risks, allowing for greater debt leverage ratios, higher stock market prices, and narrower interest rate spreads. Financial markets responded with an alphabet soup of innovative instruments and practices that pushed credit to populations and practices that previously had been denied. The democratization of access to credit increased home ownership rates and played an important part in the vision of a new "ownership society" that would reduce the need for paternalistic and outmoded New Deal programs like welfare or Social Security. Indeed, fiscal policy was hardly needed anymore for stabilization purposes, since the independent Fed was in control.

Well, it worked—until it didn't. Unfortunately, expectations management is a thin reed on which to hang public policy, as we now know. It cannot prevent bubbles. It cannot resolve their aftermath. It cannot jump-start a faltering economy. And it cannot slow inflation—at least, not without hiking rates so high that the resulting financial Armageddon would dwarf even the thrift crisis of the 1980s.

Welcome to the Bubble Economy: The Perils We Face

As the U.S. economy heated up during 2005 and 2006, largely fueled by a real estate boom, the Fed began to raise interest rates to demonstrate its anti-inflation resolve. Even as late as spring 2007, Fed researchers were still denying that there was a real estate bubble, although appreciation of real estate values as well as deterioration of lending standards exceeded all previous experience. When they came, rate hikes had no discernable impact on the speculative boom—borrowers borrowed and lenders pushed loans. However, problems began to appear in many of the loan pools that had been securitized in 2004. By summer 2007, default rates exploded, securities ratings were downgraded, losses began showing up on the books of financial institutions. Finally, markets seized up in August when demand for securitized products collapsed. Bernanke's Fed followed the well-worn path blazed by his predecessor, lowering rates in big and frequent steps. However, losses continued to accumulate, and to spread to other institutions and instruments; the economy continued to slow; and market after market experienced liquidity problems.

Making matters worse, inflation crept outside the Fed's comfort range, and it also rose abroad. The Fed found itself almost alone in cutting rates, as inflation fears have thus far trumped slow growth in most of our competitor nations. Lower interest rates on safe assets in the United States, combined with growing fears of a U.S. financial markets meltdown, led to an attempted reallocation of international wealth portfolios away from U.S. dollar assets. In other words, far from reassuring financial markets outside the United States, the Fed's low interest rate policy only unsettled them and sparked a movement away from the dollar—causing rapid depreciation of the exchange rates.

While the lower dollar did spur U.S. exports, it also increased the price of imports. True, higher exports helped to maintain aggregate demand in the United States in spite of the financial crisis. And, as Levy Institute researchers have long demonstrated, reduction of the external deficit allows the domestic sector's balance to improve. (Papadimitriou, Hannsgen, and Zezza 2008) However, as Minsky always argued, all else being equal, growing exports are actually inflationary, because a smaller portion of total production is available for domestic consumption (see Minsky 2008a). (Domestic prices must rise to prevent residents from consuming the goods destined for export. This is why net exporters—like China—eventually run up against an inflation barrier.) Moreover, the depreciating dollar raised the price of imported oil, inducing oil exporters to raise dollar prices to try to maintain the purchasing power of their dollar receipts. Inflation spiked even in China, which had long deserved credit for helping to keep inflation low in the developed world through its low-cost exports. Now China was being blamed for exporting inflation as its domestic wages rose, and (along with India) for driving up the prices of the commodities it imported to fuel its high growth rates.

When oil prices began to rise quickly, Congress—in its infinite wisdom—mandated greater use of biofuels. This would not only help to fuel (no pun intended) oil price inflation (since oil is needed to grow and harvest those crops), but would also accelerate food price inflation. To be sure, commodities prices, generally, were climbing at nearly historic rates. Some of this was due to trade policy (NAFTA helped to destroy low-efficiency Mexican agriculture, increasing demand for U.S. output), some of it to rising demand in the rapidly growing nations of Asia (China and India), and some of it to the market belief that commodities are a natural inflation hedge. As inflation climbed, the run to commodities was encouraged, raising prices still further in a nice, virtuous cycle.

As real estate markets cooled, speculators looked for other profit opportunities. A couple of years ago, the speculation was in the physical commodities, boosting storage facilities to their limits to sell later at higher prices. Soon, however, the action moved to the commodities futures markets, with managed money buying paper commodities not to speculate but to hold—permanently, as an inflation hedge in a diversified portfolio! We are now waiting for the other shoe to drop—the collapse of commodities prices. As of early August, this appears to be under way. Managed money will now have to look for returns elsewhere. Martian oceanfront condos, anyone?

Appropriately, "stagflation" has reentered the lexicon as U.S. inflation rates climb and economic growth slows to a halt. While most members of the Board of Governors still hope that inflation will subside later in the year, some are hinting that the Fed could soon turn its attention to inflation fighting. Chairman Bernanke hopes that rising oil and food prices do not feed through to core inflation; however, that would seem to be an unfounded wish—as the two previous oil price shocks (1974 and 1979) were followed by sustained overall price increases. Indeed, both of our previous experiences with accelerating inflation were led by rising food, energy, and housing costs. Note, also, that the main component of housing prices included in the consumer price index is shelter costs (not the value of real estate). These costs are largely imputed so that, even as real estate prices collapse, housing's contribution to CPI inflation will not necessarily diminish. Add to these price pressures the "pass-through" inflation due to a depreciating dollar and we have a recipe for sustained inflation even in a recession. The Fed faces a Hobson's choice, as soaring prices raise inflation expectations in spite of economic stagnation and sinking financial markets.

Alternative Policy

The interest rate cuts will not do much to restore economic growth, nor to quell financial market unrest. Indeed, lower rates fueled pass-through inflation from dollar depreciation and rising oil prices due in part to that depreciation. Further, lower rates can reduce the cost of leveraged funding by managed money—which could have added to price pressures in commodities markets as discussed above. This does not mean that rate cuts are unwarranted, but they will not be effective—and in any case, any future rate changes will go in the other direction. The Fed's continued intervention as lender of last resort is, of course, necessary and helps to prevent runs on at least a portion of banking system liabilities (as does FDIC insurance). However, the inability of such interventions to settle markets is demonstrated daily, because financial market participants do not trust their counterparties. The problem is not simply liquidity but solvency. At high leverage ratios—as high as 30 times equity—it does not take much of a loss to generate the sort of doubt about solvency that cuts off credit.

Nor will the last fiscal stimulus—in the form of tax rebates equal to about 1 percent of GDP—stop the carnage. While it had some impact, it appears to have already run out of steam. There are calls for another stimulus package (Levy Institute scholars have recommended another 2 percent of GDP), but deficit fears will likely delay action and keep it too small (Papadimitriou, Hannsgen, and Zezza 2008). Again, that does not make tax rebates bad policy, but they will not restore the housing sector, they will not generate much employment, and they will not eliminate debt overhang. Insiders at Goldman Sachs believe the credit crisis will not end until \$6–\$7 *trillion* in leveraged debt is unwound. Roughly a trillion dollars of household net wealth was wiped out in the fourth quarter of 2007; if the fall in house prices reaches 30 percent before the crisis is over, there could be another \$5 trillion in losses to be absorbed by households. Exactly how all that translates to the hit to be taken by GDP is anyone's guess, but we can expect an extended period of stagflation, as slow growth alone will not reverse the dollar's fortunes or sufficiently moderate commodities prices—the main sources of inflation pressures.

Those pressures can be relieved by dealing with the source: commodities futures purchases by managed money funds and oligopoly pricing by oil producers. The first is relatively easy to deal with: remove all tax advantages for funds that purchase commodities or indexes of commodities (both physical and "paper" futures) and prohibit purchases of such assets by funds that benefit from government guarantees (such as the Pension Benefit Guarantee Corporation). In addition, the president could draw down the U.S. Strategic Petroleum Reserve to increase supply in spot markets (something Democrats tried to force through Congress although legislation was voted down by the House). If that is not sufficient to break the oligopolies' pricing, then the president must lean on allies, including Saudi Arabia. A further step would be to remove any stigma from official purchases of dollar assets (Treasury Secretary Paulson charged countries with "currency manipulation" when they initially tried to stop the dollar's slide). A promise by the administration that it will stop pursuing a "cheap dollar" mercantilist policy would help to convince oil exporters to allow prices to fall, and would encourage other net exporters to stop reallocating portfolios away from the dollar. The United States is much too large and much too rich to rely on export-led growth, as it has been trying to do in recent months. At best, the growth of exports has only prevented GDP growth from going negative, but at a cost of accelerating inflation, due to the declining dollar and the usual inflation pressures suffered by exporter nations. In any event, the dollar's slide seems to have reversed, and U.S. export growth has been hurt by the slumping global economy.

Given the depressed state of the construction industry, this would be an ideal time for the federal government to rebuild and expand the nation's neglected infrastructure. As simulation estimates by Papadimitriou, Hannsgen, and Zezza (2008) demonstrate, increasing such spending would be more stimulative than tax rebates, and would be targeted to a sector that is now suffering, while at the same time increasing America's productive capacity and living standards. As the estimated needs amount to nearly $2 trillion, this sector alone could generate enough jobs and consumer demand to keep the economy close to full employment for the next decade. A substantial portion of the spending on infrastructure could be directed toward public transportation—thereby conserving petroleum use even as the new construction and manufacturing jobs replace those lost in the automobile sector. The time is ripe for a major restructuring of American transportation.

Much of the planning and spending for public infrastructure needs to be done at the state and local levels, but it must be funded by the federal government—at least some of it in the form of block grants. This should be undertaken in conjunction with a New Deal–style program that would provide training, jobs, and decent wages to anyone willing to work—what Minsky and others call an "employer of last resort" program. This is the only way to guarantee full employment without generating a wage and price spiral, and it would supply much of the labor needed to complete the projects. Just as the New Deal jobs programs left a legacy of public buildings, dams, and hiking trails, the fruits of this program would be enjoyed for decades.

We will need debt relief for burdened homeowners and other indebted households. This is not the place for a detailed plan—many are currently being floated—but any real solution will require some combination of debt write-downs (meaning losses for financial institution owners), negotiation of better terms (rolling adjustable-rate mortgages into low-rate fixed mortgages), and government assumption of troubled mortgages and student loans. In addition, I would follow Minsky's proposal, made in the wake of the savings-and-loan fiasco, to create an institution similar to the Reconstruction Finance Corporation of the 1930s, to purchase and hold mortgages until the real estate sector recovers; President Roosevelt's Home Owners' Loan Corporation provides a model that could be followed. This is the way to support home ownership without bailing out owners of the private financial institutions that created the mess.

While reforms have been proposed for Fannie Mae and Freddie Mac, both agencies are saddled with tremendous amounts of bad debt, at the same time they are required to appease markets that are uncertain the government really stands behind them. Sallie Mae is in even worse shape. The best course of action would be for the Treasury to explicitly guarantee the debts of these and other government-sponsored enterprises (GSEs), to directly fund additional debt, and to increase oversight and supervision of activities to ensure they operate in the public interest. With leverage ratios as high as 65-to-1, the GSEs represent both a tremendous risk to the public purse as well as to regulated for-profit financial institutions that are required to operate with lower leverage. Congress needs to rethink the wisdom of private ownership of GSEs.

This leaves us with the biggest policy challenge: what to do about what Minsky, in the late 1980s, termed "money manager capitalism," characterized by vast accumulations of funds under management by pension funds, insurance funds, and hedge funds (Minsky 2008b). If a deep recession and debt deflation can be avoided, money managers are certain to create another asset price boom that will renew and extend all of the financial practices that caused the current crisis. Remember the Michael Milken leveraged buyout (LBO) boom? The current LBO frenzy dwarfs the earlier one. As Frank Partnoy, professor of finance, puts it: "The whole point of acquiring a good reputation is to deplete it for gain. You expand your investor base and find the less sophisticated investor. But you can rebuild your reputation, too. Now is bad, but the memory of financial markets can be measured in days" (quoted in Thomas 2008). That short memory allows the risky practices to come back even more virulently, spreading into new areas and taking advantage of new suckers.

For example, the idea behind LBOs was that the hostile takeover would be financed by issuing debt backed by the prospective income of the target company (preferably a virgin cash cow with little debt). Today, purchases of securitized loan pools are similarly financed through short-term commercial paper backed by the assets to be purchased, with equity leveraged 30, 40, or 50 times over. With little "skin" in the game, it is "Heads I win, tails I lose little." Actually, losses can be avoided entirely through insurance and buy-back guarantees often provided by the investment banks that arranged the deals—potentially exposing the Treasury through its implicit protection of troubled institutions.

To be sure, it is difficult to see why the government would have a legitimate interest in eliminating all risky practices. There is a place for managed money pursuing the highest returns even with a high probability of catastrophic failure that could wipe out private wealth. By the same token, there *is* a public interest in maintaining safety and soundness of at least a portion of the banking, student loan, and home mortgage sectors, as well as pension and insurance funds. Given implicit and explicit government guarantees behind many of the liabilities of these regulated sectors, there is a justification for the close regulation and supervision of activities. Insured banking deposits are explicit Treasury liabilities (FDIC "insurance" is not sufficient, as we learned when the savings and loan crisis brought down the FSLIC), and uninsured bank liabilities have been treated as implicit Treasury liabilities in the case of banks considered "too big to fail" (which today includes almost all of them, or at least the issuers of the largest *volume* of liabilities). Only owner equity is at risk—and often even that is not really at risk, since the "too big to fail" rescue usually favors political rather than economic considerations. Hence, it is legitimate to prohibit activities considered too risky or otherwise against the public interest.

In recent years, many of the changes made to banking regulations have been based on a flawed view of the proper role of banks—as I have discussed, the goal has been to allow banks to become more "market oriented" (Wray 2008). For example, there has been a growing belief that bank assets should be "marked to market," even on a daily basis. In a boom, this generates exceedingly risky behavior as the market discounts default probabilities, permitting banks to participate in euphoric speculation that raises the market value of risky assets. In a bust, banks see asset prices plummeting and are forced to recognize "marked to market" losses, and even to sell into declining markets to push prices down farther. Such behavior is precisely the opposite of the behavior that policy ought to encourage. While we cannot and should not go back to New Deal–era practices, thorough reform is needed to make it more difficult for regulated and protected banks and thrifts to participate in the next speculative boom—or to contribute to the next collapse.

Perhaps the most important way banks helped fuel the latest booms was through off-balance-sheet operations—liabilities that were hidden—including buyback guarantees and "special purpose vehicles." These effectively committed the Treasury (through the FDIC and likely bailouts as rescues become necessary) to unknown risks even as they allowed protected institutions to evade rules, regulations, and guidelines designed to maintain safety and soundness. There is little justification for such practice—except that it allowed these institutions to earn extra fee income in partial compensation for allowing relatively unregulated Wall Street banks to directly compete with them. Unfortunately, legislators were duped by Greenspan's free-market bias into repealing New Deal legislation that separated commercial and investment banking, not recognizing that market segmentation is required if some types of institutions are going to be more closely regulated. It may be too late to go back to such segmentation, in which case the only solution is to impose similar rules and supervision across all types of institutions that are allowed to operate in the same markets. Hence, any institution involved in originating, securitizing, distributing, and holding home mortgages ought to be subject to the same constraints—including leverage limits and the requirement that *all* liabilities appear on balance sheets.

In conclusion, appropriate fiscal stimulus—oriented toward job creation and restoration of public infrastructure, a rescue plan for homeowners, elimination of cheap dollar/mercantilist policy, and removal of government-supported managed money from commodities markets—will provide an effective remedy for what ails the U.S. economy today. The "Big Bank" Fed cannot do much more than it has already done; the rest is up to what Minsky called "Big Government" policy operating in the public interest. The proper role for government has been neglected for too long. Hopefully, the "hands-off" worship of the "free markets" era has run its course and sensible policy formation will enjoy a resurgence.

References

Bajaj, V., and M. M. Grynbaum. 2008. "About 1 in 11 Mortgageholders Face Loan Problems." *The New York Times*, June 6.

Goodman, P. S. 2008. "Worried Banks Sharply Reduce Business Loans." *The New York Times*, July 28.

Labaton, S. 2008. "Fed Sees Turmoil Persisting Deep into Next Year." *The New York Times*, July 9.

Minsky, H. P. 2008a. *Stabilizing an Unstable Economy*. New York: McGraw-Hill.

———. 2008b. *Securitization*. Originally published 1987; reissued, with Preface and Afterword by L. Randall Wray, as Policy Note 2008/2. Annandale-on-Hudson, N.Y.: The Levy Economics Institute. June.

National Conference of State Legislatures (NCSL). 2008. "State Budget Update: June 2008." July.

Papadimitriou, D., G. Hannsgen, and G. Zezza. 2008. "Fiscal Stimulus: Is More Needed?" Strategic Analysis. Annandale-on-Hudson, N.Y.: The Levy Economics Institute. April.

Thomas, L., Jr. 2008. "Tight Credit, Tough Times for Buyout Lords." *The New York Times*, March 8.

Wray, L. R. 2004. "The Fed and the New Monetary Consensus: The Case for Rate Hikes, Part Two." Public Policy Brief No. 80. Annandale-on-Hudson, N.Y.: The Levy Economics Institute. December.

———. 2008. "Financial Markets Meltdown: What Can We Learn from Minsky?" Public Policy Brief No. 94. Annandale-on-Hudson, N.Y.: The Levy Economics Institute. April.

Yamamura, K., and J. Ortiz. 2008. "Governor Set to Slash State Workers' Pay." *The Sacramento Bee*, July 24.

Zibel, A. 2008. "U.S. Foreclosure Filings Surge." The Associated Press, June 13.

Recent Levy Institute Publications

Policy Notes

Securitization
HYMAN P. MINSKY
PREFACE AND AFTERWORD BY L. RANDALL WRAY
2008/2

The Collapse of Monetarism and the Irrelevance of the New Monetary Consensus
JAMES K. GALBRAITH
2008/1

The April AMT Shock: Tax Reform Advice for the New Majority
DIMITRI B. PAPADIMITRIOU and L. RANDALL WRAY
2007/1

The Burden of Aging: Much Ado about Nothing, or Little to Do about Something?
L. RANDALL WRAY
2006/5

***Debt and Lending: A* Cri de Coeur**
WYNNE GODLEY and GENNARO ZEZZA
2006/4

Twin Deficits and Sustainability
L. RANDALL WRAY
2006/3

The Fiscal Facts: Public and Private Debts and the Future of the American Economy
JAMES K. GALBRAITH
2006/2

The Levy Economics Institute of Bard College
Blithewood
PO Box 5000
Annandale-on-Hudson, NY 12504-5000