The Levy Economics Institute of Bard College

Summary

Fall 2008 Vol. 17, No. 3

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The Levy Economics Institute of Bard College, founded in 1986, is a nonprofit, nonpartisan research organization devoted to public service. Through scholarship and economic research it generates viable, effective public policy responses to important economic issues that profoundly affect the quality of life in the United States and abroad.

The *Summary* is published three times a year (Winter, Spring, and Fall) and is intended to keep the academic community informed about the Institute's research. To accomplish this goal, it contains summaries of recent research publications and reports on other activities.

Editor: W. Ray Towle
Text Editor: Barbara Ross

The *Summary* and other Levy Institute publications are available on the Institute's website.
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The Levy Economics Institute of Bard College
Blithewood, Annandale-on-Hudson, NY 12504-5000
Phone: 845-758-7700, 202-887-8464 (in Washington, D.C.)
Fax: 845-758-1149 E-mail: info@levy.org Website: www.levy.org

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LETTER FROM THE PRESIDENT

To our readers:

This issue begins with the 17th Annual Hyman P. Minsky Conference under the State of the U.S. and World Economies program. Participants discussed Minsky's financial instability hypothesis and the ability of monetary policy to stabilize financial markets and the economy, as well as the role of the Federal Reserve and its ability to function as a systemic lender of last resort. Speakers frequently compared events in the 1930s (the New Deal era) to the present, and they considered the prospect of another debt deflation rivaling the Great Depression. They also examined today's complex and fragile financial system (e.g., the advent of securitization) and potential solutions to the mortgage crisis. Other related topics included the timing, cause, and length of recession; the nature and effectiveness of proposed economic stimulus packages; regulatory failures and the reformulation of policy; and the deleveraging process and potential financial losses.

In a new Strategic Analysis, Research Scholars Greg Hannsgen and Gennaro Zezza, and I find that economic and financial conditions have worsened since our previous analysis. We determine that economic output will be at least 4 percent below potential and unemployment will increase by 2 percentage points by 2010. We favor public works projects rather than transfers and challenge the notion that a stimulus package larger than the one recently approved by Congress is unnecessary and would be inflationary. In a working paper, we use our macroeconometric model to evaluate the impact of the Warren Buffett plan to use import certificates to narrow the U.S. trade deficit, and determine that the plan might not work well in practice. We present an alternative, revenue-neutral plan where certificates would be auctioned by the government directly to importers and the proceeds used to offset reductions in payroll taxes. In another working paper, Antonio Carlos Macedo e Silva and Research Associate Claudio H. Dos Santos find that stock-flow consistent macroeconomic models are an ideal tool for post-Keynesian analysis in the medium term.

Under the Monetary Policy and Financial Structure program, a policy note by Senior Scholar James K. Galbraith argues that Milton Friedman and the "New Monetary Consensus" are wrong, and irrelevant to the problems faced by monetary policy today. Rather, the relevant economics are associated with John Maynard Keynes, John Kenneth Galbraith, and Hyman P. Minsky. In another policy note, a 1987 memo by Minsky outlines the players and process of securitization, while a preface and an afterword by Senior Scholar L. Randall Wray place the memo within the context of the current financial crisis. In a public policy brief, Wray traces the historical development of today's financial system and discusses lessons from Minsky that could be used to reformulate policy and deal with the present crisis.

Four working papers under this program are reviewed. Senior Scholar Jan Kregel outlines the reasons for the current U.S. crisis in real estate lending and examines the impact of the crisis on the global financial system. Research Associate Jörg Bibow investigates the global capital flows paradox and proposes a return to Keynesian proposals such as the 1944 bancor plan. Michael Mah-Hui Lim examines the subprime mortgage crisis and the magnified risks for the global financial system, and suggests that the problem could escalate to one of insolvency. Kregel assesses the performance of domestic demand management and industrialization in Latin America, and recommends reform of the international financial architecture in line with the proposed Havana Charter of 1947.

Under the Distribution of Income and Wealth program, a working paper by Hyunsub Kum and Research Scholar Thomas Masterson describes the statistical matching technique applied to two national surveys that are used to produce the synthetic data set for the Levy Institute Measure of Economic Well-Being.

Under the Gender Equality and the Economy program, a working paper by Research Associate Lekha S. Chakraborty analyzes a time-use survey for India and recommends gender-sensitive policies of public infrastructure investment.

In a working paper under the Employment Policy and Labor Markets program, Daniel Kostzer shows how Argentina recovered from one of the worst social and economic crises in its history when the government acted as employer of last resort. In another working paper, Research Associate Pavlina R. Tcherneva assesses the potential for fiscal policy within the New Economic Consensus and finds that the Post Keynesian school of thought has reinstated the link between fiscal policy and full employment via functional finance.

Under the Economic Policy for the 21st Century program, a working paper by Hannsgen explains the empirical puzzle posed by N. Gregory Mankiw—that individuals hold much less money than suggested by theory.

As always, I welcome your comments and suggestions.

Dimitri B. Papadimitriou, *President*

Program: The State of the U.S. and World Economies

The 17th Annual Hyman P. Minsky Conference
Credit, Markets, and the Real Economy: Is the Financial System Working?

Welcome and Introduction

President DIMITRI B. PAPADIMITRIOU observed that this is an auspicious time to celebrate the work of Hyman P. Minsky. The "Minsky moment" has arrived, as it had during the Asian crisis in 1997 and the Russian crisis in 1998. He hoped that legislators and regulators of the financial system would learn something from this experience, and noted that Minsky's two seminal works have just been republished by McGraw-Hill: *John Maynard Keynes* and *Stabilizing an Unstable Economy*.

Papadimitriou also noted that the Levy Institute has been exploring and extending Minsky's work, and that its scholars have taken advantage of the late economist's insights. The Institute uses a macroeconometric model developed by Distinguished Scholar Wynne Godley to simulate the U.S. economy and its relation to the global economy for the intermediate term. The model uses stocks and flows in an operating framework of the accounting identity, where it links the internal (public and private) and external (foreign) balances. The private sector is further disaggregated into the household and corporate sectors.

As Minsky had always done, the model stresses the importance of the linkages between conditions in the financial markets and the real economy. Over the past year, the Institute has reported on the high probability of a recession and an increase in unemployment based on the assumption that the financial markets and the ensuing meltdown would slow the pace of household borrowing, which affects aggregate demand and output. Papadimitriou observed that projections of a drop in household borrowing have come to pass and a recession is now thought by almost everyone to be rather certain.

Papadimitriou presented the Levy Institute's latest Strategic Analysis report, titled *Fiscal Stimulus: Is More Needed?* (April 2008), a summary of which appears on pp. 25–27.

Session 1. Historical Precedent and Solutions to the Mortgage Market Crisis

Moderator: President DIMITRI B. PAPADIMITRIOU.
Speakers: JANE D'ARISTA, Financial Markets Center; THOMAS FERGUSON, University of Massachusetts Boston; ALEX J. POLLOCK, American Enterprise Institute; and WALKER F. TODD, American Institute for Economic Research.

According to D'ARISTA, we have lost one of the most important cushions in our financial system: reserves. She outlined a number of regulatory failures of the Federal Reserve (Fed): it made no effort to curtail leverage and speculation (e.g., the link between excess liquidity and debt-financed speculation), and it ignored asset bubbles (price inflation) and credit; it did not call attention to the problem of the over-the-counter markets created by banks; it overlooked the implications of deregulation and innovation, and changes in financial structure (e.g., the explosion in debt and the channeling of savings from banks to institutional investors); and it disregarded the implications of foreign capital inflows into the United States and their effect on the direction of policy. Further, it cannot act systemically because it is unable to suppress its ideological commitments to unfettered markets. The Fed is the bully culprit of the financial crisis, D'Arista said, and it has not taken into account the impact of the shift from a bank-based to a market-based system, which is inherently procyclical, so its actions have tended to exacerbate cyclical behavior in financial markets. Monetary policy has lost the ability to stabilize financial markets and the economy.

D'Arista noted the large growth in household, financial, and total debt in the past 10 years. She also noted that, today, banks account for less than 24 percent of total credit, compared to 56 percent in 1976. She further noted that reserves (not capital) are a cushion and central to the issue because they have face value, are not subject to price changes, and are an invaluable cornerstone of the payment system.

In 1951, there was a very stable and safe bank-based system, whereby 11 percent of total bank deposits were covered by reserves. The percentage today is less than one-tenth of 1 percent. Face-valued assets have been replaced by risk-based capital requirements. The recent proposal by the Financial Stability Forum (G7 Conference) that banks increase capital against off-balance-sheet positions is counterproductive, D'Arista said, because there is no capital available from institutional investors, households, or businesses. The sources of capital are the sovereign wealth funds of foreign nations or, potentially, something patterned after the Great Depression–era Reconstruction Finance Corporation (RFC). The critical element is that we are facing a meltdown in financial sector capital.

A predominantly market-based system relies on capital to cushion the effects of systemic disruptions. Falling prices erode capital, and leverage accelerates that process. The major problem is that the Fed is not in a structural position to renew reserves and rebuild a cushion.

D'Arista proposed a new system of reserve management that assesses reserves against assets rather than deposits and applies reserve requirements to all segments of the financial sector. Her proposal would increase the Fed's ability to respond to credit contractions or expansions because it would be implemented by supplying or withdrawing interest-free liabilities in exchange for purchases or sales of assets on the balance sheet of the financial sector. We need to impose reserves on all financial institutions in the U.S. economy, D'Arista said, and make these institutions part of the Fed's monetary transmission mechanism. A supply of new liabilities at no cost emanating from the central bank would make it possible for individual institutions to write off or restructure the terms of loans or assets—a new and powerful monetary tool that would mitigate the destructive force of the current crisis for borrowers as well as lenders.

In the proposed systemwide reserve regime, using repurchase agreements as the principal operating tool would allow the Fed to exercise control over a much larger assortment of assets and strengthen its ability to halt runs, moderate crises, and curb excessive investment across the entire financial system. It would restore the Fed's ability to function as a systemic lender of last resort, as it did when banks were the dominant lenders in credit markets. The Fed could also respond more effectively to the excessive investment or disinvestment of foreign funds in U.S. asset markets.

The advantages of this regime are that it rebuilds a face-value reserve cushion, restores a faltering payment system, mitigates sales of assets, and includes an automatic stabilizer (e.g., price changes would be moderate). It would offset the liquidity trap that is built into the existing reserve-assessment system for banks because institutions with free liabilities could write off loans without jeopardizing their own survival (i.e., they would have access to a renewable liability).

FERGUSON compared the politics of finance in the New Deal era and in the present. He said he expected the issue of single-payer insurance for people rather than for banks and primary security dealers to be a topic of the presidential campaign, and was surprised to discover the indifference (e.g., that of Congressman Barney Frank, chairman of the House Financial Services Committee) concerning the problems with bond insurers and the notion that Wall Street was lightly regulated. Ferguson stated that the Democrats and the Republicans had struck a deal in which the Republicans would support mortgage relief and, in return, the Democrats would not try to regulate finance this year (i.e., nothing will happen politically until the next president takes office). He also noted the folly of self-regulation (e.g., recent reports that the London Inter-Bank Offer Rate [LIBOR] had been faked).

The Fed outlined its reasons for not bailing out the stockholders of Bear Stearns, but it has not shown how it has aided the stockholders of JPMorgan Chase and other primary security houses. Ferguson questioned why nothing has been done to return to the public some of the value created by the Fed's actions toward these firms.

During the administration of President Herbert Hoover, the RFC gave aid in return for preferred stock—an arrangement that paid for itself. By comparison, $50 billion a week exits the Fed's primary security-dealer facility, and nothing is returned to the public. Moreover, there is a confidentiality agreement between JPMorgan Chase and the Fed.

Ferguson also questioned why we were not currently in a New Deal world, and he objected to the supposed "productivity advances" of the current model of selling securities. In light of extensive historical research, his observations on the New Deal did not align with standard accounts (see his *Golden Rule: The Investment Theory of Party Competition and the Logic of Money-driven Political Systems* [1995]). Ferguson noted that Hoover was running for reelection in 1932, and as the incumbent president, he was responsible for the banks. The financial situation worsened prior to the election and resulted in big losses when Germany collapsed and Great Britain abandoned the gold standard, and there was a run on the dollar. The banking community (along with the Treasury secretary and the president) tried to establish the National Credit Corporation and roll over the bad bonds (mostly in railroads) into something supported by bankers. This action was similar to Henry M. Paulson's plan a few months ago regarding special-purpose vehicles. However, in 1931, the bankers were unwilling to support the corporation or the plan, and time was lost. Negotiations between Hoover, Treasury official Ogden L. Mills, J. P. Morgan & Company, and other New York banks led to the creation of the RFC, which was designed to provide liquidity and restore confidence in the banking system but remained idle until President Franklin D. Roosevelt took office in 1933.

Ferguson outlined some of the personal links between the financial institutions in the early 1930s. He observed that the American bankers not only supported Hoover in 1932 but also tried to control the Democratic nomination (their candidate was Newton D. Baker). In essence, the general U.S. economic strategy was up for grabs at the beginning of Roosevelt's administration. The common belief was that the separation of investment from commercial banking (the Banking Act of 1933) would apply only to national banks. The end results, however, were policy failures and bank closings at the onset of the new administration, followed by a total prohibition of investment-commercial banking. Thus, political obstacles in the U.S. (banking) system were removed only when the situation became untenable.

Today's situation mirrors events in the 1930s. Paulson's (privately run) proposal was abandoned (and valuable time was lost); there was a slow response to a bailout; and there is infinite confidence in moral suasion, which will probably make everything worse. Ferguson questioned the viability of the international design. He noted that countries were not dumping dollars, and that American troops in Iraq (the 9-1-1 for the Saudi regime) were really at the heart of the dollar story. He also noted that relations with Europe have not gone to pieces, there have been no bank competition issues as in 1932–33, and the primary security dealers have been allowed into the mix. He further noted the issue of party finance. The banking community's leading choice in 1932 did not win the nomination; in contrast, our next president will make the basic decision about financial regulation, and both parties are overwhelmingly tied to finance. Thus, everything else is rhetoric.

POLLOCK outlined the logic of the bubble and bust. He observed that Hyman Minsky's media presence is pronounced once again, so Minsky is a coincident financial indicator. He also observed that financial history repeats itself, as expressed in Walter Bagehot's *Lombard Street* (1873), where Bagehot concluded, "Every great crisis reveals the excessive speculations of many houses no one before suspected." Bubbles are hard to control because so many people are making money from the rising prices of the underlying assets. Everybody appears to be winning, including the politicians who cheer the rising home ownership rates and the expansion of housing credit.

According to Minsky, it is important to think about the interaction of balance sheets and cash flows. Money made in a bubble stems from the overexpanded balance sheets of somebody else that include the buildup of risky assets with promises about the future. Increasing leverage and debt perform well during the bubble period delinquencies and defaults are low, and the whole structure appears to be becoming less risky. The reality is that risk is increasing. Minsky calls this process the "endogenous build-up of financial fragility," where, in a euphoric economy, short-term financing of long-term positions becomes a normal way of life. In this setting, the market regards projected future increases in asset prices a legitimate part of the loan-to-value ratio. According to Pollock, however, we should observe a falling loan-to-value ratio when an asset inflates in value (and the risk increases), but the opposite is true. As observed by Velleius Paterculus in his *Compendium of Roman History* (circa A.D. 30), "The most common beginning of disaster [is] a sense of security."

Success depends on the validation of cash flows in the balance sheets, but validation in a bubble is impossible, so panic follows. "Panic" describes the role of the short-term investors and lenders (e.g., buyers of prime commercial paper, interbank loans, and bank depositors) who are searching for a virtually riskless short-term position. When the short-term lenders realize that they are holding a lot of risk, they disappear; this response sets off the bust, which, according to Minsky, is a discontinuity. Pollock's "plank curve" illustrates the process. It represents the amount of liquidity in the market as a function of uncertainty and fear, and the sudden downward change in direction at the end of the period has the appearance of stepping off the end of a (ship's) plank.

There are also clear patterns in the wake of the bubble and bust: the political reaction (e.g., the search for the guilty), regulatory changes (the creation of mechanisms, such as the Federal Reserve in 1914, to ensure that this never happens again), and an expansion of the government's balance sheet (i.e., government guarantees to banks and other corporations). Although you can't eliminate financial cycles without socialist stagnation, you can make them more tolerable, said Pollock.

He noted that the government's balance sheet was expanding now in a fairly dramatic way in terms of the Fed, the Federal Housing Administration (Fanny Mae and Freddy Mac), and the Federal Home Loans Bank (with the real discount window), where lending greatly exceeds that of the Fed.

Pollock referred to the 1930s-era Home Owners' Loan Corporation (HOLC) as a lesson for today's housing and subprime bust. He presented three approaches to ameliorate the current situation: (1) refinancing of troubled mortgages in terms of new loans on a new basis; (2) including major losses for the holder of the mortgage when refinancing; and (3) offering cash realization of loans, where lenders incur some loss in cash terms but are reliquified at the same time, as opposed to holding nonperforming (dead) loans.

The new mortgages ought to be on a sustainable basis relative to the new values of the properties and incomes. These approaches, under the guise of a program similar to the HOLC, should proceed in spite of moral hazard and some expected losses, because the program can be profitable when there is a flight to quality (i.e., a rush to own Treasury securities and get a government guarantee). Moreover, the program should be stand-alone and temporary, disappearing when there is a return to normal market behavior. There is currently a bill in the House of Representatives that would do this, noted Pollock.

The most important information asymmetry is between borrower and lender. Therefore, Pollock proposed that there should be a straightforward statement explaining what the mortgage means to the borrower. Based on his recommendation, a bill is being introduced into the Senate by Senator Charles E. Schumer (D-NY). An important structural point is that the credit decision maker has not retained the credit risk. There is a systemic difference between mortgages originated by (small) own-account lenders (e.g., banks and savings and loan institutions) and those originated through a broker or mortgage bank. The entity making the credit decision should be responsible for a significant part of the credit risk, but current regulations and rules make this objective difficult to accomplish.

In sum, Pollock's prescription is a temporary reinvention of the HOLC program, a permanent one-page disclosure for borrowers seeking mortgages, and a means of ensuring that credit decision makers assume the risk. The study of financial history helps us to understand the human, financial, and political patterns.

TODD recommended that all bank officers and broker-dealers pass a history test about financial panics, including the works of Charles Mackay, Charles P. Kindleberger, and C. Lowell Harriss. He outlined his rescue plan—a single-purpose, stand-alone entity with a defined term limit—by which the State of Ohio could refinance mortgages in response to the current debacle of subprime mortgage lending. The history of the HOLC, created by the Loan Bank Act of 1932, emphasizes the importance of leadership and political institutions. Therefore, it is necessary to carefully select the person who would run the entity because it would be handing out public money for free.

Todd noted that when the financial crisis began, the Fed had $800 billion on its balance sheet, but it has already committed one-half of this amount to the primary-dealer community without public debate. Moreover, the Fed will keep increasing the amount at each new (28-day) auction cycle in response to ongoing requests by the dealers. As a result, there will be insufficient Fed funds to carry out proposals such as D'Arista's new system of reserve management (see pp. 6–7).

Todd suggested that conference participants introduce his plan, which was carefully crafted for conditions in the heartland, to the State of New York. He observed that the home mortgage foreclosure crisis could be divided into two areas: the Sunbelt states (California, Arizona, Nevada, and Florida) and the greater New York region, where there was a speculative bubble in housing prices; and the Great Lake states and cities in the Midwest (e.g., Cleveland and Detroit), where there was no bubble. Thus, the solution to the mortgage crisis will vary between the two areas.

The highest per capita foreclosure rates have occurred in the areas without a speculative housing bubble (especially in minority neighborhoods) because of a new breed of mortgage lenders. Refinancing reduced homeowners' mortgage monthly payments, but when these payments were reset higher a few years later, in an environment of declining employment, the reset had devastating consequences for household finances. Todd noted that the refinancing options were advertised as "fixed-rate mortgage loans," and the Fed allowed lenders to get away with this misinformation.

In Ohio, the state has proposed to finance the appointment of an attorney for every homeowner wishing to contest mortgage foreclosure of the homeowner's property. Todd said he believed this approach was fruitless, because the banks would still be left holding the bag even if all the attorneys won their cases. A successful plan needs to provide relief to both homeowners and financial institutions. History suggests that the most effective approach is to implement a state-level restructuring of mortgage loans patterned after the RFC.

According to Todd, states can and should act on their own in confronting the mortgage debacle. His plan includes creating an entity or board and issuing bonds for the principal amount of mortgages to be refinanced. State financing would place a cap on the rate and concentration of foreclosures, and a floor under housing prices. The entity should be ready to purchase all mortgages within certain parameters at a price that the lenders and investors advanced or paid (taking into account accrued interest already received). No homeowner should be charged interest greater than the initial rate for floating-rate mortgage loans or more than 3 percent above the Treasury's five-year note rate on the date of issuance of the mortgage for fixed-rate loans. Homeowners would be expected to stay current on their mortgages at the new rate, and the state's potential liability could be capped. Essentially, the state entity would pay out higher-rate obligations and receive lower-rate income streams. Losses would be recovered through the state's taking out a lien on the covered real estate equal to the expected final value of the payment differential for each mortgage. Borrowers, Todd said, should be encouraged to seek private sector refinancing for conventional fixed-rate mortgages after 10 years in the program. He also outlined how the state entity could respond when a depository institution tendered its mortgage portfolio.

In essence, the state would fund the program by borrowing money under tax-exempt bond issues, an action that has the support of the Treasury and the White House. A plan by Congress to impose a penalty on the face value of the loans is unconstitutional (i.e., taking private property for public use), so the state would have to offer par values to the lenders less any accrued interest paid since the inception of the loan. Pollock has stated in public that he would want warrants on the common stock of the banks that get bailed out. By contrast, the financial establishment wants the Federal Reserve balance sheet transferred into its corporate coffers without any executive compensation or effect on stock values.

Todd recommended that the state maintain the principles and qualifying standards of the Hope Now program and facilitate financing for those who qualify, with a cap of, say, 10 percent of the equity value of the home and the chance to refinance for 10 years at a fixed rate that is subsidized by the state. By adding 1 percent of net equity per year, the homeowner would have 10 percent equity after 10 years, and could then go to the Federal Housing Administration for refinancing. Nontax revenues would be needed to fund this program, but in states such as Ohio, all of these revenues have been directed toward an economic stimulus package that includes a host of pork projects that will do nothing in the long run.

Since a targeted mortgage relief package places a floor under falling house prices, it would mean the beginning of recovery. And since the housing crisis is the root of all our problems, Todd said, it should be addressed first. He cautioned that attempts to address the housing problem at the national level would be met by the standard Washington/Greenspan/economist arguments that bubbles either don't exist or are impossible to identify. The response to such sophistry is to adopt the following rule of thumb: "If it is expanding by more than 25 percent a year in a low inflation environment, then you should assume that it is a bubble."

Speaker: PAUL A. MCCULLEY

McCulley, a managing director at PIMCO, acknowledged that Minsky's work has practical implications for his firm, which manages three-quarters of a trillion dollars in debt units (bonds), and that they therefore foresaw the "Minsky moment" in 2007. Moreover, Minsky's thesis that stability is destabilizing because people inherently take on more risky debt structures is a Nobel Prize concept. There is an intense procyclical character to capitalism and the financial markets that is also imparted to regulatory structures. According to McCulley, we are now in a "reverse Minsky journey."

The three bubbles along the forward Minsky journey were property valuation, mortgage finance, and the "shadow banking system." A shadow bank (e.g., investment bank or hedge fund) is a levered-up intermediary that does not have a form of liquidity protection (i.e., access to Federal Deposit Insurance Corporation deposit insurance or to the Federal Reserve's discount window). In the middle were the mortgage originators who operated using the "originate to distribute" model, had no skin in the game (no active interest), and sold everything into the shadow banking system. In order to create product for the system, there was systematic degradation of underwriting standards. Since the system did not have access to a lender of last resort, it issued asset-backed commercial paper based on ratings from the credit-rating agencies.

A key reason that the structure of the system was inherently unstable is that the degradation of underwriting standards was not revealed during the bull market of the cycle because default rates were low (the degradation of underwriting standards drove up asset prices). There was no track record of the performance of new innovations over a full cycle.

The three stages in the forward Minsky journey are hedge, speculative, and Ponzi finance. McCulley suggested a fourth stage—"Ponzi squared"—when you arrive at the Minsky moment. During the period from 2005 to early 2007, the marginal (debt) unit was no money down and no documentation of ability to pay, with a teaser rate and negative amortization. This "loan package" is basically an at-the-money call option (to buy the house at the current market price) and an at-the-money put option (to sell the house back at that price)—for free. Ponzi squared has the characteristics of a Ponzi unit (insufficient cash flow to amortize the principle or to pay the interest in full) but without any skin in the game. Essentially, the shadow banking system was giving away this package of options—long-dated options struck at the money—to marginal borrowers. According to the Black-Scholes model, these options were very valuable. However, when the call option is *out* of the money and the put option is *in* the money, subprime borrowers exercise the put by dumping the asset; that is, they discharge debt that is greater than the value of the asset. The Ponzi-squared unit was the marginal unit in the first quarter of 2007 just prior to the advent of early-payment delinquencies (in the first three months of the mortgage) and the blowup of the hedge funds at Bear Stearns. The marketplace can't say it wasn't warned, exclaimed McCulley.

The reverse Minsky journey begins when falling house prices reveal all sins, including the inherent liquidity risk of the shadow banking system. In a three-month period that began in August 2007, the system could not roll $350 billion of asset-backed commercial paper (the deposit) because there was a run on the shadow system that forced it to delever, driving down asset prices and eroding equity so that the system was forced to delever again. The process is incredibly procyclical, as is the regulatory response, so there is the equivalent of Keynes's paradox of thrift—the paradox of delevering.

Using the sovereign's balance sheet breaks the paradox of delevering. Someone has to take the other side of the trade to avoid a depression. When providing balance sheet support to buffer a reverse Minsky journey, there is no difference between the Treasury's balance sheet and the Fed's balance sheet. The Fed kicks back to the Treasury all the fruits of seignorage ($32 billion per year), so it is effectively working for the people, and the two balance sheets are one and the same economically.

In McCulley's view, we are well advanced on the reverse Minsky journey, which is much faster than the forward journey because it creates pain (i.e., it is one giant margin call). This journey will end when the full faith and credit of the sovereign's balance sheet is brought into play to effectively take the other side of the trade. The Fed took a giant leap forward when it opened the discount window to primary dealers on March 16, 2007, and the investment banks became part of the real banking system because they now had access to a public good. Access to the Fed's balance sheet means that these banks should be regulated by the Federal Reserve, McCulley said, and not by the U.S. Securities and Exchange Commission. As part of the restructuring process, this regulatory change will likely unfold as we return to a more bank-centric intermediation system.

Fed Chairman Ben Bernanke's action in March 2007 was a watershed moment that will actually shorten the time needed to reach the end of the reverse Minsky journey. The next big step is for the Treasury's balance sheet to take on the mortgages and to nationalize, in some respects, the subprime mortgage business (i.e., the shadow and real banking systems that sold all of the free puts must take a loss). PIMCO is in favor of Congressman Barney Frank's plan—the FHA Housing Stabilization and Homeownership Retention Act—which represents the final leg of the reverse Minsky journey. McCulley surmised that it is time to start thinking about playing offense rather than defense.

McCulley observed that we could accept either a higher level of inflation and socialization in our economy, or a depression. He also observed that Alan Greenspan should have increased margin requirements as expressed in a Federal Open Market Committee meeting in September 1996. As long as we have reasonably deregulated markets and a financial system that has severe principle-agent problems, McCulley said, there will be Minsky journeys, forward and back, punctuated by Minsky moments. Therefore, there should be countercyclical regulatory policy in order to check excessive developments—and to help modulate human nature.

Session 2. Minsky and the Crisis

Moderator: GREG HANNSGEN, Research Scholar, The Levy Economics Institute.

Speakers: JAN KREGEL, Senior Scholar, The Levy Economics Institute; ROBERT W. PARENTEAU, Research Associate, The Levy Economics Institute; and L. RANDALL WRAY, Senior Scholar, The Levy Economics Institute.

KREGEL applied an aspect of Minsky's financial instability hypothesis to understanding the subprime mortgage crisis. According to Minsky, the difference between cash inflows and cash commitments determines the margin of safety, and the size of those flows determines the relationship between hedge, speculative, and Ponzi financing units. The idea of using cushions or margins of safety would have enabled us to foresee the fragility that was inherent in the evolution of markets after 2004, suggested Kregel.

The origin of this idea stems from Moody's *Manual of Investments* (prior to 1930) and Keynes's essay "The Consequences to the Banks of the Collapse of Money Values" (1931). In Moody's manual, "margin of safety" meant the ratio of the balance of interest to the earnings available for interest on a bond. According to Keynes, banks allow beforehand for some measure of fluctuation in the value of assets by requiring what is called "margin" (i.e., the security offered by the borrower to the lender). The normal definition of margin of safety was associated with spread or net-interest banking.

Securitization related to residential mortgage-backed securities differs from net-interest banking, so we have to look at the margin of safety differently, said Kregel. The cash flows of adjustable rate mortgages (ARMs), option ARMs, or mortgages with resets were structured initially to look like hedge financing schemes. At reset, however, the margins of safety disappeared and these structures were converted from hedge to Ponzi financing schemes, unless borrower incomes rose more rapidly than the cash commitments on the loans, interest rates remained stable, or house prices continued to rise.

The mortgages that converted into Ponzi schemes were placed in securitized structures where the margins of safety were represented primarily by overcollateralization, a surety guarantee from monoline insurers, or some form of bank guarantee (e.g., liquidity puts). According to the State Foreclosure Prevention Working Group, homeowners were having difficulty paying their subprime loans even before the reset period, so the high delinquency rates reflect the impact of weak underwriting and fraud in the subprime loan origination system.

Overcollateralization for conforming loans was set by the issuer and not by the rating agency, which had the experience. Thus, the margins of safety within the collateralized mortgage obligations were insufficient from the beginning. Moreover, the margins of safety were affected by the use of multitranche payments, undercapitalized monoline insurers, and guarantees that were not on the banks' balance sheets. In the end, the entire structure was a Ponzi scheme that would inevitably collapse, since the margins of safety were insufficient to cover the risk.

Kregel quoted Louis Ranieri, the supposed inventor of the mortgage-backed security, relating to his assessment of new investment instruments that were designed in the 1980s and 1990s. According to Ranieri, the investment banks invented an instrument that could be traded on the condition that no credit decisions were necessary and the credit mechanisms were essentially risk-free. The only remaining questions for investors concerned their outlook on interest rates and preferences on maturities. However, securitization started to break down as a concept when the issuer imposed on the investor the responsibility of analyzing the underlying collateral.

In order to successfully securitize an asset type, one must be able to predict the actuarial experience of default. Although single-family homes have an actuarial foundation, the problem could not be mitigated by insurance because the premium would be prohibitively expensive. Many of the factors that gave standard mortgage products high credit quality were missing in the newly devised mortgage products. The graduated payment mortgage (GPM) product to assist families that could not previously afford home ownership failed because a pool of GPM loans has default rates well above the actuarially allowable standard (i.e., three or four out of a hundred). Furthermore, if pay raises slowed or a recession occurred, defaults would be catastrophic. Structures that depend on people succeeding and earning more each year do not follow the same actuarial trend as traditional mortgage products. Ranieri also acknowledged that ARMs suffered from structural flaws, and that he foresaw their demise as early as 1996.

Kregel noted that the ARMs offered in the marketplace in 2004–05 were structured slightly differently from those addressed by Ranieri, but that the outcome was the same. He also noted that FICO credit scores were originally developed for applicants for credit cards and automobile loans, and that these scores had no history with subprime borrowers. According to HSBC Finance Director Douglas Flint, FICO scores are ineffective when lenders are granting loans in an unusually low interest rate environment. And, according to financial analyst Robert L. Rodriguez, in a 2007 speech, Fitch reported that its credit-rating models were primarily determined by FICO scores and by the continuation of home-price appreciation. Moreover, Fitch admitted that if prices declined by 1 to 2 percent for an extended period of time, the model would break down completely and impair tranches as high as AA or AAA. This prognosis aligns with that of Ranieri—ARMs do not work and could produce catastrophic defaults. Furthermore, every time an insurer is downgraded, all of the structures that the insurer has backed are downgraded as well.

The sales premise that all credits are created equal was suddenly no longer true, irrespective of credit enhancements, observed Kregel. The experience of individuals who originated the entire securitization scheme for residential housing shows that collateralized structures do not provide margins of safety and are, therefore, Ponzi schemes. Thus, financial history and the correct identification of margins of safety are extremely important in determining the stability of financial structures.

PARENTEAU addressed five key macrofinancial questions: (1) Is it useful to employ a Minsky macrofinancial perspective? (2) Is this Minsky moment already over? (3) Can't markets self-adjust? (4) Is the Fed the fixer? and (5) Where do we go from here?

At last year's conference, Parenteau noted that something had gone wrong with the financial markets and the credit allocation mechanisms, and that the financiers had gone wild. At that time, he expected that there would be a housing bust, that household deficit spending would reverse and profit margins narrow as a result, and that layoffs and further income-growth erosion were inevitable. He also expected more difficulty in servicing private debt loads, a credit crunch episode that further restricts household deficit spending, and a less effective outcome if the Fed lowered interest rates in response to a recession (given the housing stock overbuild and low corporate reinvestment rates). Further, he noted that the principal exit strategies, such as rebuilding the public capital stock and encouraging domestic demand-led growth abroad, were not yet on the agenda.

Since then, the economic outcome has begun leaning toward a hard landing, and the new financial architecture, while efficient in terms of risk distribution, has proved inefficient in terms of credit analysis. Parenteau's expectation that there would be six stages of decoupling arguments defending the soft-landing view and forestalling the hard-landing conclusion came true. Financial innovation, he said, along with repeated moral-hazard interventions, appears to have corrupted the private sector–credit allocation mechanism. The signs that financial instability was beginning to ripple out from the subprime mortgage market and more esoteric mortgage derivative products, and that this instability was unlikely to be contained, also materialized, as did expected discussions about the next asset bubble (to revive economic growth) and how to realign incentives in the new financial architecture. Parenteau said he believed he had previously understated the issues, in keeping with Keynes's assuming the role of Cassandra in his *Essays in Persuation* (1931).

Parenteau noted that the "Minsky moment" is more than a moment because Minsky's financial instability hypothesis refers to an inherent process that is endemic to a normal, functioning economy (i.e., stability breeds instability). The "moment" is not over, since house prices have not completed their deflationary path, profit shares remain close to their peak, current financial imbalances require a much larger fiscal push, and a larger trade swing (requiring domestic demand stimulus abroad) is needed to mitigate the financial imbalances. The Fed is pushing on a string because lower Fed funds rates have not affected private market interest rates (e.g., conventional mortgage rates and corporate bond yields). Furthermore, loss recognition by financial institutions is not yet complete—one of the bigger shoes still to drop.

Parenteau also noted that there has been a surprising lack of discussion about the cause of the recession. The Fed did not kill the expansion. Rather, it was the endogenous unwind of the asset-bubble/Ponzi scheme—in other words, Minsky's financial instability hypothesis is correct. In fact, notable supporters of financial market deregulation (e.g., former Fed Chairmen Alan Greenspan and Paul Volcker; Richard Fisher, CEO of the Dallas Fed; and the International Monetary Fund) are now reconsidering their position, which may lead to an obituary for financialization. We are in a watershed moment, said Parenteau. It is now recognized that debt can amplify shocks to consumer spending rather than smooth consumer spending. At both a practical and a theoretical level, people recognize that something has shifted.

Keynes's revolutionary point is that markets are not self-adjusting to full-employment equilibrium. The reason is not a lack of price or wage flexibility, or information asymmetry, but the price adjustment dynamics in durable asset (and financial) markets that could be perverse, combined with the lack of (future) information. As a result, people use coping mechanisms such as convention formation and investor/lender herding, and the problem lies in the transition.

When the spot price of durable assets falls, collateral values and the net worth of asset owners also fall, reducing the capacity to borrow. This perverse price adjustment process can ultimately wreck societies—a concept that completely eludes the market fundamentalists and the New Keynesians now running the Fed. Contrary to conventional theory, a decline in the spot price of durable assets can increase rather than reduce the net excess supply; that is, lower prices lead to lower prices because there is more supply in the market. Using J. R. Hicks's high elasticity of expectations, the forward price may fall below the spot price and shift the demand curve for durable assets, so that Minsky's present value reversal arises when there is no incentive to produce. The stock effect overwhelms the flow effect. The same dynamic holds true for financial assets, where the forward price is even more unmoored because of leverage and shifts in conventions and herding dynamics.

Parenteau observed that, in spite of the 300-basis-point decline in the Fed funds rate, mortgage and corporate bond rates have scarcely moved, courtesy of bank loan restrictions. There is a liquidity hoax, he said, because the Fed is not injecting net liquidity into the financial system. Rather, the Fed is changing the composition of its balance sheet—buying riskier assets and selling Treasuries. Furthermore, the financial sector's balance sheet (excluding hedge funds) is three times that of the Fed and the Fed's balance sheet is swamped by the financial sector—in stark contrast to the situation in the 1930s. If the Fed wants to monetize by buying assets from broker-dealers, there is the impression that it is able and willing to buy all assets. But the Fed is, in essence, bluffing. It would have to increase the size of its balance sheet enormously. The reason this increase has not happened is that we are in a period of soaring commodity prices and falling dollar exchange rates. Any expansion of the Fed's balance sheet may spark a flight from dollar-denominated assets. Thus, the Fed may have less room to maneuver this time around.

Parenteau outlined three essential targets and three possible scenarios. In accordance with the approach of Minsky and Keynes, the targets are stable asset prices (i.e., house prices), a coordinated debt-workout system with incentives, and stable income growth. The three scenarios were presented as caricatures: (1) "Glass-Steagall on Stilts" (i.e., the problem is greater than that in the 1930s and the financial sector is much more sophisticated today); (2) "Ponzi Nation" (franchising casino capitalism); and (3) "Leaving Las Vegas" (reclaiming the ownership society).

The keys to avoiding "It," or another Great Depression, relate to the response of fiscal and monetary policy. The presence of a lender of last resort and low interest rates support asset price stabilization. Deficit spending supports income growth, while regulation reduces the potential for financial instability. Moreover, it is necessary to direct the policy moves of investors, lenders, consumers, and entrepreneurs/managers.

In the "Glass-Steagall on Stilts" scenario, the Fed has to be the lender of last resort if it continues to function as a market maker of last resort. A reality-based economy should make off-balance-sheets illegal, and there should be an agreed-upon definition of earnings per share. In addition, leverage should be limited, capital ratios should vary procyclically, margin requirements should apply to a variety of financial instruments and be actively managed (the Fed stopped doing this in the 1960s), and greater transparency should ensure that all transactions go through the exchanges (i.e., over-the-counter markets should be illegal). A shadow financial system has been allowed to develop. Going forward, there should be no more asymmetric responses to bubbles. The "Greenspan put" should be repudiated and conventional debt-trap equations should be applied to the private sector. Parenteau questioned the difference in substance between ownership and a collateralized loan, where the collateral can be sold at the whim of the creditor (i.e., the Fed).

According to Parenteau, it appears that we are going the way of Glass-Steagall on Stilts as opposed to the other scenarios, which extend the trajectory of the last 30 years into the theater of the absurd. Democratizing the Ponzi Nation means encouraging all asset bubbles that speed up tangible capital accumulation and build out the capital stock, as well as encouraging mass participation in bubbles where the emphasis is on asset redistribution rather than income redistribution. Leaving Las Vegas means adopting an automated stake-holding mechanism (i.e., mandating the issuance of diluted shares and the use of proceeds to pay down financial debt), deleveraging the financial system as the bubble proceeds, and holding the proceeds in a sovereign wealth fund.

In Parenteau's view, the watchword of the past three decades—"There is no alternative"—should be replaced by "'No alternative' is no longer acceptable to anyone anymore." This means the demise of financialization and the arrival of the great reregulation. However, these changes will probably require more economic pain in order to generate the political will. We've allowed the pirates to run the show, Parenteau said, and they have been looting under the banner of "Reality is what you can get away with."

WRAY summarized his recent Levy Institute public policy brief, *Financial Markets Meltdown: What Can We Learn from Minsky?* (see also, pp. 31–32). Minsky hypothesized that the structure of a capitalist economy becomes more fragile over a period of prosperity. As expressed in the brief, the belief that the world is now more stable and less vulnerable to "shocks" (the "Great Moderation") allowed greed to trump fear. According to Wray, Minsky would label the faith in the era of the Great Moderation a "radical suspension of disbelief."

The current crisis repudiates the Big Government/Neocon model, which favors self-regulation by markets and socialized risk. According to Minsky, the crisis relates to money market capitalism, which is an economic system dominated by finance. The fundamental characteristics of money manager capitalism are that securitization replaces banking and highly leveraged positions hide "unknown unknowns." Keynes believed that the two fundamental flaws of capitalism are the unequal distribution of income and a missing tendency toward full employment. Minsky added a third fundamental flaw: capitalism is unstable.

Wray explained the historical development that led to today's complex and fragile financial system, and how the seeds of crisis were sown long ago by lax oversight, risky innovations, and deregulation during a lengthy period of relative stability. He pointed out that, according to Minsky, there is no final solution to the problems of money manager capitalism because it was the relative stability of the postwar period that encouraged risky innovations and led to the crisis.

The Fed has been increasingly aggressive in using interest rate changes to fine-tune the economy, when only 20 years ago, all economists agreed that you could not fine-tune the economy. Partly in response to the Fed's actions and the growing belief in the Fed's role, financial institutions made credit more elastic. Irrational exuberance, which was based on the belief in the "New Economy" in the 1990s, and unprecedented real estate appreciation, which validated increasingly risky Ponzi finance in the 2000s, is the result of long-term, policy-induced, profit-seeking financial innovations. Today, Wray said, we face a collapse of the entire financial system, as the crisis exposes the inherent flaw of money manager capitalism when fear disappears and hope becomes, in the words of securities market expert Erik R. Sirri, "a crappy hedge."

The traditional role of banks evolved in order to mitigate the risk of another debt deflation rivaling the Great Depression. However, governments relaxed regulations so that banks could take direct positions in all aspects of the financial system. According to Wray, many of today's problems can be traced back to securitization (the "originate and distribute" financial model), leverage, the demise of relationship-based banking, and the dizzying array of extremely complex instruments that only a handful understands. The banks' share of the financial system declined by more than half, from 55 percent in 1960 to 23 percent today. Moreover, competition has pushed interest rate spreads so low that a near-zero default rate is required to validate positions. And an increasing proportion of the financial system is now outside the Fed's oversight and (explicit) protection. Risk was never assessed, shifted, or reduced, and it returned to the banks, where liquidity problems very quickly led to insolvency problems.

Asset price depreciation will not be restricted to residential real estate. As economic activity slows, there will be revelations of problems throughout the entire financial sector. Wray estimated that the combined losses could amount to several trillion dollars (in a $13 trillion economy). Moreover, the United States will feel the effects of the current crisis for some time—perhaps a decade or more.

Wray noted that the policy initiatives of the George W. Bush Administration appear to be designed to help creditors rather than debtors. He instead recommended much larger stimulus packages, which are probably politically infeasible. A return to stagflation looks increasingly likely, as it will be difficult for the United States to grow its way out of the problem.

Wray discussed lessons from Minsky that could be used to reformulate policy and deal with the present crisis. He called for two major kinds of reform in terms of preserving home ownership and restoring regulation and supervision. There should be mortgage relief that stabilizes the real estate sector and reform that amends the bankruptcy laws. Since the problems are concentrated in adjustable rate mortgages, perhaps we ought to prohibit this option, along with its teaser rates for first-time and low-income buyers. Wray also called for the creation of a new institution in line with President Franklin D. Roosevelt's Home Owners' Loan Corporation. According to Minsky, government should act as the employer of last resort in order to eliminate involuntary unemployment, reduce inequality and poverty, and prevent the problems from morphing into solvency problems. Minsky preferred policy that would promote small- to medium-size financial institutions (rather than their consolidation), and policy that was biased toward market segmentation.

We must return to a more sensible model, with enhanced oversight of financial institutions, said Wray. Monetary policy should stabilize interest rates, maintain direct credit controls, and strengthen its supervisory and regulatory duties. Rather than favoring investment, we should encourage consumption and employment, which are more stable. Furthermore, he said, bailouts will be required to avoid real, not financial, losses (lending at a discount is not a bailout). As Minsky put it, "A financial crisis is not the time to teach markets a lesson by allowing a generalized debt deflation to 'simplify' the system."

Session 3. Impact of the Crisis on the Economic Outlook
Moderator: W. RAY TOWLE, Research Associate and Editor, The Levy Economics Institute.
Speakers: RICHARD BERNER, Morgan Stanley;
JAMES W. PAULSEN, Wells Capital Management; and
FRANK VENEROSO, Veneroso Associates, LLC.

BERNER noted that his remarks did not necessarily reflect the views of Morgan Stanley or its staff. He also noted that Minsky is a shadow member of Morgan Stanley's risk management committee because it understands how stability breeds instability at both the macro and micro levels. At the macro level, the markets comforted participants when they added leverage in the search for yield and when they sold securities and enhanced volatility. At the micro level, participants securitized under the assumption that everything could be marketed, a notion that added embedded leverage and complexity to securities. The comfort level extended to the concentration of risk into a few hands; thus, the façade of stability created fragility.

Although investment vehicles such as structured credit and other financial innovations may seem new, the themes are actually quite vintage, said Berner. In *The Panic of 1907: Lessons Learned from the Market's Perfect Storm* (2007), authors Robert F. Bruner and Sean D. Carr note that complexity, buoyant growth, and rising leverage were key elements contributing to the market's "perfect storm," and deleveraging of balance sheets was a key ingredient in the unwinding process.

Reintermediation of the banking system—a securitization mechanism—has resulted in more rapid deleveraging than in the past. The shock of subprime defaults has triggered dislocations in the nonagency mortgage-backed securities market, the asset-backed commercial paper market, and the offshore LIBOR funding market. These disruptions promoted a forced reintermediation of the global banking system in response to a procyclical contraction in credit and an increase in credit costs, leading to a credit crunch. According to Berner, the deleveraging process remains the key threat to global growth.

Reintermediation promotes a procyclical credit contraction in three ways: (1) credit concerns trigger liquidity backstops for conduits and special investment vehicles, forcing a shift from an off-balance-sheet funding source that requires little capital to one that requires capital and a reduction of leverage in the financial system; (2) banks raise the cost of new liquidity and credit facilities; and (3) assets placed back on the banks' balance sheets may boost capital requirements for some European banks.

The nuances in the reintermediation process matter in terms of the degree to which credit tightens. After honoring existing commitments, the banks must fund new commitments by tapping dislocated markets such as the LIBOR market, which is a benchmark for loan pricing and where there is differentiation by quality of institution. This new pricing regime won't evaporate anytime soon, said Berner. Since the turmoil began, banks have raised $165 billion in new capital globally, but the capital has come at an increased price, since there is a higher probability of a capital call by borrowers. Moreover, the return of assets to bank balance sheets is likely to increase risk-weighted capital requirements.

Berner addressed eight implications of the reintermediation framework outlined above: (1) The current liquidity and credit cycle has a long way to go. Higher volatility and steeper yield curves are here to stay over reasonable investment horizons. The economy is in recession and recovery will be slow and labored. (2) The globalization of finance and the disbursement of risk means that it is impossible to predict the timing and location of contagion. (3) Financial innovation has not altered the fact that confidence is still essential for markets and leveraged institutions to function. (4) The "originate and distribute" model of credit creation has undermined sound underwriting and risk management, so both practices have to be strengthened. (5) Reintermediation gives banks an opportunity to take back market share and recoup lost pricing power. (6) Market participants should count on more regulation and reporting to help regulators assess risk profiles of financial institutions (i.e., a financial services model involving less leverage and lower absolute returns). (7) Write-downs and recapitalization of leveraged lenders is essential to fixing the crisis. (8) There is a new (and welcome) debate among central bankers about how to respond to significant changes in asset prices when current models do not adequately capture the influence of these changes on growth and inflation. Experience tells us that asset prices matter for economic behavior, so policies should consider them in a forward-looking way.

Berner was sympathetic to the notion put forward by Henry Kaufman, an independent consultant and former mentor at Salomon Brothers, that one regulator should oversee all large, complex financial institutions. Trading activities must be marked-to-market, regardless of venue; new standards for risk management must be designed in terms of capital, leverage, and a broad range of circumstances; and financial infrastructure matters.

PAULSEN took a view contrary to that of previous presenters in terms of the state of the U.S. economy and the financial crisis. He focused on how the current situation will play out, and observed that crises happen regularly, yet none of them have led to another Great Depression. The response in a crisis is to be more aggressive from an economic and investment standpoint because there is a tremendous rally in response to lower interest rates, more liquidity, and cheaper stock values.

In Paulsen's view, the end of the current crisis is at hand. He pointed to the fact that markets generally bottom when there is a peak number of "scare articles" in publications such as the *Wall Street Journal* (e.g., a new record for these articles was set in March 2008). This response occurs after many investors have already cashed out of the market and the markets have discounted the reality, as well as their worst nightmare. The current market is regularly referred to as the worst crisis in the postwar era, but the stock market is off only 11 percent from its all-time high—which was achieved less than six months ago.

Paulsen noted that every crisis consists of two significant elements: fundamental balance sheet and income problems, and fear (about something unique). Fear is the dominating element in this crisis, he said. Although there are problems in the housing and auto industries, and the subprime market is a mess, the vast majority of the economy (i.e., 95 percent of the debt) is not in bad shape.

When the crisis started, the Fed responded with its traditional medicines (interest rates and liquidity injections) to correct fundamental economic balance sheet problems and income statements. The response did not work, so the Fed bid and placed a floor under prices in order to boost investor confidence. Since most bad debts have been written off, the crisis now is more about write-downs of good debt that no one really thinks will become defunct. In fact, the situation has improved since the Fed's intervention in the markets. The key, then, is not to drop interest rates but to boost confidence.

According to the corporate bond–yield spread of 3.25 percent (Moody's BAA corporate bond yield less the 10-year Treasury yield), there is greater risk now for a massive corporate credit default than at any time since the Great Depression. That view, however, is at odds with the results of a fundamental credit analysis because of the effects of fear and the lack of policies to deal with that fear. U.S. nonfinancial corporate balance sheets and income statements show some of the strongest ratios in decades (e.g., cash-assets-to-total-debt ratios, net-cash-flows-to-capital-spending ratios, and profit margins), while the debt-to-net-worth ratio is the lowest since the 1960s.

An example of the level of overreaction by investors is that high-yield bond spreads were so low in 2007 that one could expect to lose money even if the bonds defaulted at the lowest interest rate in history. Now these same spreads are so wide that one would make money even if the bonds defaulted at the *highest* rate in history. If we are in a recession, Paulsen said, this recession has been the best forecast ever. There are no inventories, corporations have more cash relative to capital spending (buying power) than in the last four decades, and household real liquid assets in the past year have grown at a rate above inflation because households are saving for a rainy day.

The economic turnaround will require further booster policies from the Fed, combined with evidence that the economy has bottomed. Although the housing and auto industries have declined significantly (at a 26 percent annualized pace in the fourth quarter of 2007), the decline is associated with only 7 percent of the economy. The remainder of the economy grew almost 4 percent (year-on-year). The recession, if we are in one, is concentrated. Thus, we don't have to end the weakness in housing, which has taken 1 percentage point off real GDP growth for the last six quarters, but we do have to stop the collapse of housing.

If the collapse flatlines, there will be a huge boost to economic growth because we would be adding to the economy by subtracting less from the housing industry. The activity levels of housing that are included in real spending are close to bottoming. The best leading indicator is the relative price performance of the S&P 500 homebuilders' stock price index, which is now performing at its highest level since the crisis started. Therefore, activity levels may bottom this quarter or the next. Furthermore, home sales are flat (not falling), absolute inventories of homes for sale have actually fallen for one year, conventional mortgage rates are lower by a full percentage point over last year, and refinancing and the affordability index are up. These are good signs.

The second boost to the economy will be the level of policy stimuli (e.g., rebate checks) and the level of MZM, the liquid money supply. And, although credit growth and bond issuance have slowed, they have not died. Moreover, the impact of trade is offsetting the decline in housing. Net exports will grow incrementally because of the weakness in the U.S. dollar.

What has been happening, said Paulsen, is not a crisis collapse but a change in the composition of U.S. growth, from an economy dominated by the consumer to one that requires other sources of growth. In essence, we are going to drive out of the consumer situation the same way we drove into it. The consumption growth rate will fall and will be replaced by real net exports, leading to an increase in the saving rate and a decrease in debt. The new emerging economies were built at least in part with our excess spending, so now we (and the Europeans) should be able to take back some growth by devaluing our currencies against those of the emerging economies (where 60 percent of our deficit lies).

VENEROSO stated that, in his view, the policy recommendations for the financial crisis do not fit the problem. He noted that we are experiencing the worst financial crisis in three generations but there has not yet been a recession. Financial (banking) crises are caused by a decline in incomes, whereby the economy contracts first because of Ponzi finance. In previous periods (e.g., 1989–92), bad loans have represented up to 5 percent of GDP. Using a top-down approach, Veneroso estimated that, in the current crisis, bad loans (credit losses) could ultimately represent 10–15 percent of GDP, or $2 trillion—a figure in line with Wray's estimate using a bottom-up approach.

Using IMF assumptions (e.g., essentially no growth, some credit restrictions, and low interest rates), along with the notion of no recession, Veneroso conducted his own, bottom-up approach. He derived a larger figure for credit losses than Wray's. He applied the expected loss ratios to miscellaneous items in the flow of funds accounts and commercial Ponzi loans. The potential credit losses associated with these items are in excess of $1 trillion. In terms of the corporate sector, junk bonds with leveraged loans ($3 trillion) have grown three times faster than nominal GDP in the current (business) cycle, so potential losses (using normal default rates) could be another $100 billion. If there is a recession, the default and loss rates will increase significantly. Even in a mild recession, the bad loans and losses associated with $3 trillion of junk bonds would be $660 billion and $400 billion, respectively. Moreover, there are other potential sources of losses.

Veneroso also noted that George Soros has forecast a mean reversion in home prices that would amount to 35 percent. He further noted that half of government-sponsored enterprise defaults are prime, not subprime, mortgages, so house prices will be the determining factor behind the magnitude of defaults and losses. Soros also expected large losses associated with credit default swaps (a $53 trillion market), but Veneroso acknowledged that the level of risk and losses was too uncertain to quantify.

An additional source of risk relates to rating and value inflation associated with structured finance (i.e., bundling low-grade securities to increase ratings and value them at par). In effect, everything was marked up by the people charging the fees. Therefore, there should be losses on all of these structured products even if there are no surprises (e.g., the ABX indices, which represent the U.S. home equity asset-backed securities, are collapsing). This is not a liquidity problem, because the losses come from multiple sources. The largest culprit is the hedge funds, which want high-yield paper for their leveraged spread structures. Last year, 26 percent of the revenues at the big European banks were from hedge funds, whose revenues were derived by leveraging up, like a bank. Banks are writing down their losses, but the losses associated with hedge funds have been minimal. These funds are the next source of significant losses, reasoned Veneroso.

The recent experience of hedge fund strategies shows large one-year redemptions. Therefore, if a few large macro funds are hiding their losses, there will be enormous pressure placed on all assets and the investment banks. The Fed's bailout of Bear Stearns was associated with collateral that was rated BBB-minus or better, which means it's willing to leverage at 40-to-1 even though hedge funds such as Carlisle went bust while leveraging at 30-to-1. The Fed rescued Bear Stearns because it was afraid of a run, but we are sitting on a time bomb, Veneroso warned.

Commodities are experiencing the worst bubble since the start of the Industrial Revolution more than 200 years ago (e.g., copper, nickel, lead, and zinc prices), in spite of the worst credit crisis in three generations and a likely recession in the United States. The reason is not associated with a super growth cycle—global growth based on exchange rates is no better now than it was in the 1990s, 1980s, or earlier—but with leverage. Commodity derivatives are valued at $10 trillion, and they have increased at a much greater rate over the last three years than fixed income derivatives and over-the-counter equity derivatives, which represent 80 percent of commodity derivatives. No one is looking at this data, exclaimed Veneroso. When the commodity bubble bursts, there is going to be a whole new problem.

There are two kinds of bubbles: those with, and those without, debt. The housing bubble and derivatives have debt that is highly leveraged, and this toxic bubble is waiting to explode.

Speaker: EDWARD CHANCELLOR

Chancellor, a member of the asset allocation team at Grantham, Mayo, van Otterloo, LLC, and a recipient of the 2007 George Polk award for financial journalism, discovered the works of Minsky while researching the history of credit. Chancellor observed that the notion of the New Paradigm in the 1990s that was discredited by the collapse of the stock market bubble was replaced with the notion of the Great Moderation by Bernanke and other central bankers in 2003.

In his *Essays on the Great Depression* (2005), Bernanke did not deny the possible importance of irrationality in economic life, but it seemed to him that the best research strategy was to push the rationality postulate as far as it would go. Prior to the housing crisis, Bernanke belonged to the school that said, "You can't analyze the bubble, but you can deal with the aftermath." At that time, he also expected mortgage losses to cap out at $50 billion. By contrast, the International Monetary Fund is now projecting losses of $1 trillion.

Chancellor used the tenets of Minsky to counter the Bernanke view. As a historian, he found that the notion of stability giving way to instability has ancient roots (e.g., the yin and yang in Chinese Taoist philosophy, and the hubris and Nemesis in Greek philosophy). He also mentioned the notion of the risk thermostat by John Adams, University of London—that we respond to improvements of risk in the outside world by taking an efficiency gain without actually reducing the level of risk that we are prepared to take.

Chancellor observed that the 1920s in the United States and the 1980s in Japan were other periods of Great Moderation; that is, new eras with low volatility of GDP growth and inflation, and massive credit growth that ended in tremendous busts. During his research, Chancellor also learned about Minsky's analysis of the stages of capitalism, and that different institutional arrangements beget different types of behavior.

Another key point in Minsky's analysis of financial markets was his emphasis on innovation, competition, and the drive toward regulatory arbitrage when the players skirt the rules set by legislation. Therefore, identifying the presence of Ponzi finance means that you will have an analytical advantage over the other players. A further key insight by Minsky is that there is a network within the financial and economic system (i.e., an interconnectedness of balance sheets and cash flows).

Chancellor lamented that macro analysis, or the top-down approach, never seems to tell the whole story and cannot foretell a crisis. Alluding to the film *The Matrix*, he said that Minsky seemed to look through the capitalist system and observe a sort of digital or financial code that enabled him to identify a flawed and very unstable financial system. Chancellor found that the credit system (securitization combined with credit insurance) encouraged an endless amount of leverage and regulatory arbitrage. For example, American Capital Access, a bond insurer, had less than $500 million of capital but $60 billion of outstanding credit defaults. He also found that there were many things about the system that were inscrutable (e.g., structured investment vehicles).

Low volatility equals cheap options, Chancellor said. During the boom period, the banks gave borrowers call options for things that were rising in value—for example, housing—paired with a put option. Now that house values are falling, properties are being returned to the lenders, who are highly exposed to default. The same Minskyan dynamic applies to the world of private equity, where companies are purchased using very high debt-to-equity ratios with no margin of safety, and with negative amortization features. Chancellor used the example of the Macquarie Infrastructure Group of Australia, which leased the Indiana Toll Road for 60 times earnings before interest, taxes, depreciation, and amortization (EBITDA), with debt of 50 times EBITDA. Another example related to the commercial real estate market, where $50 million bought $7 billion worth of properties (the remainder was borrowed from banks and hedge funds) and the use of short-term financing resulted in the buyer giving up the investment. Chancellor observed that half of the people who lost fortunes in the early 1990s were the same people who lost fortunes last year. Apparently, he said, it pays to play the game.

The risk models allowed people to take on more debt, but they did not address the "tail risks" when things go bad. Another great insight by Minsky is that there is a tremendous procyclicality to risk taking. However, the bust phase is very complex, and its effects are less apparent in a Minskyan analysis. There is the collapse of the securitized credit system and massive intervention by the Fed to counter debt deflation. There are factors such as the ability of U.S. households to continue to run deficits, the emerging market in China, and the effect of U.S. policy (e.g., how U.S. interest rates affect economic conditions in China). The period of the bust has very recognizable commonalities, but each crisis has its own story. Therefore, the current crisis does not have a clear model that can be used to fully understand it.

Chancellor questioned whether the current interest in Minsky is at a cyclical peak. He noted that Minsky's behavioral model is based on the rationality of agents in the financial markets and that the most prestigious newspapers and journals have referenced Minsky in the last year. He hoped that he was able to help bring Minsky's analysis and insights to light so that they would be used in the future.

Speaker: Senior Scholar JAMES K. GALBRAITH

Galbraith, University of Texas at Austin, and chair of Economists for Peace and Security, suggested that Minsky's taxonomy of financial behavior might be adapted for use beyond its original sphere of application. With some surprise, he noted that Minsky's basic conceptual framework has not been extended to other areas of social and political analysis. He proceeded to describe the economic, political, and military interaction of nation-states in light of Minsky's famous analytical distinction between hedge, speculative, and Ponzi finance.

The notion that "stability is destabilizing" is based on an analysis of modern financial capitalism and rooted in human psychology and behavior. In a model of bureaucracy or politics, risky behavior for the conglomerate entity (nation-state) can emerge from a stable environment as a result of the actions of individual players emboldened to test the limits traditionally placed on their behavior by convention, ethics, regulation, or law. Nation-states do not enjoy symmetric relations within a global system. Rather, international relations exhibit an intricate, dynamic hierarchical structure: a dominant hegemonic player, allies (which benefit from the established system), and peripheral (exploited) countries.

Within each system, members face a tradeoff between self-interest and collective interest. A dominant player has limited power because it depends on the forbearance of its allies and the peripheral countries within its sphere. In terms of Minsky's framework, economic growth and technological development in the international system play the role of cash flow–generating activities. Military power and the financial relations that support it play the role of portfolio transactions (i.e., to project power beyond what can be justified by economic and technical supremacy alone). Like firms in a market economy, countries seeking to project and defend their power must innovate, experiment, and improvise. Stable periods naturally lead to optimism, booms—and increasing fragility.

Countries contesting for economic and technological advantage in a stable, global environment are the analogs of hedge players. When a hegemonic power projects its influence by, for example, threatening military action, it is the analog to a speculative profile. The shift from a hedge to a speculative profile is typically the product of system success, as success against one system is likely to breed extreme confidence that other systems are equally open to attack. Countries in a speculative position are exposed to the same risks as hedge countries, but they become vulnerable on the military and financial fronts. A country's transition from a speculative to a Ponzi profile is not fully under its control. If there is open conflict, more economic resources are generally required than planned for, and the process of accelerated depletion often ends with the collapse of the regime. Thus, the movement to the "generalized Minsky moment" comes in two phrases: the (intentional) shift toward a speculative position or fragility, and the (unintentional) shift from a speculative to a Ponzi position, where a shock is not required to generate a crisis.

Galbraith questioned why there has not been a constant stream of financial crises and wars throughout history. In terms of Europe, the broad answer lies in the development of the national army following the French Revolution, and the consolidation of Germany and Italy into nation-states. Standing armies greatly raised the uncertainty associated with military conflict close to home and induced hedging behavior. The success of colonization in the 19th century, however, bred a surpassing confidence and encouraged more speculative behavior. It did not take much, in August 1914, for the speculative position to be transformed into a Ponzi profile by the assassination of Archduke Ferdinand in Sarajevo and the subsequent mobilizations and outbreak of war.

For Germany, hedge behavior compatible with sustained peace was never an option in the interwar period. Its initial speculations (aggressions) paid off and provided rewards vastly greater than the costs, leading, in classic Minskyan fashion, to overconfidence. When Germany challenged the Soviet Union in the Second World War, its industrial and military capacities were severely limited by its finances.

According to historian Adam Tooze, both the German and Japanese systems were unsustainable and would have collapsed even if these countries had not been overrun. On the other hand, Great Britain and the Soviet Union were bound to each other and to the outside world by a functioning financial network. Britain and Germany were reduced to second-tier status by the consequences of war and supplanted by the United States. The end result was the construction of a world financial and political system of mutual obligation and restraint, along with sustained development, that imposed hedging behavior on the major players for 25 years.

For Minsky, the apparent stability of the postwar economy was founded on the combined impact of strong regulation enforced by strong institutions, and the effective implementation of Big Bank and Big Government policies that followed the onset of the New Deal. The stabilizing framework precluded excessive risk-taking and blocked the movement of financial players from hedge to speculative positions. The same was true for the international political system. The Cold War fostered hedging behavior, while pushing conflicts away from the center and into the peripheral countries. These actions initiated the step-up process from a hedge to a speculative platform (e.g., Vietnam and the unsupportive financial behavior of U.S. allies).

The U.S. recovery led to another major financial aggression against the third world (i.e., tight monetary policies in the early 1980s), resulting in debt crises and the resumption of an America-centered world economic expansion in the 1990s. At this time, much of the world continued to feel the need to finance the military superiority of the United States (e.g., China and Japan supported the U.S. financial position in return for secure access to U.S. markets). Emboldened, the United States entered, once again, the speculative phase of the cycle, which included successes in Bosnia and Kosovo, the Gulf War, and Afghanistan.

For the United States, Iraq became the first speculative bet gone bad since Vietnam. Iraq was not, as planners of the invasion supposed, just another isolated peripheral country. It was well within the geopolitical reach of Iran, which was (and remains) outside the U.S. sphere of control. American leaders thought they were knocking over a minor adversary, but in reality, they were greatly strengthening a more significant one. For the United States to return to a hedge system from an overextended imperial one would require leaving Iran in charge of Iraq.

Minskyan logic suggests that, at some point, the only way to refinance the power debts of Iraq would be to incur new ones. The U.S. position depends on the willingness of the world to finance it, and that hinges on three things: (1) the continuing conviction by allied countries that the costs of failing to support the U.S. global position outweigh the costs of maintaining that support; (2) a belief by countries in the periphery and rival powers that American hegemony cannot be successfully defied; and (3) the U.S. financial system remains second to none as a safe haven for the maintenance of liquidity and investment value. The war in Iraq has already undermined the first two.

At what point does a speculative bet gone bad turn into a Ponzi profile that cannot be redeemed? The potential for raising the speculative bet and increasing the level of risk remains very much alive. The hope is to return to a hedge position and rely on effective diplomacy and deterrents to permit the emergence of a stable balance in the Persian Gulf.

Speaker: ROBERT J. BARBERA

Barbera, of investment firm ITG, presented a paper coauthored by Charles L. Weise, Gettysburg College, outlining a Minsky/Wicksell Modified (MWM) Taylor Rule that provides a better explanation of changes in the federal funds rate over the past 10 years than John Taylor's original equation. Part of the problem with the Taylor Rule, which was adopted in the early 1990s, is volatile energy prices and associated changes in the consumer price index (CPI). The rule requires corresponding changes in the federal funds rate despite the relative quiescence of underlying price pressures. When Federal Reserve policy-makers elevated the importance of core inflation, the Taylor Rule trajectory was poor at catching actual swings in the overnight federal funds rate (i.e., it failed to anticipate Fed tightening in the late 1990s and aggressive easing in 2001–02). Current Taylor Rule calculations indicate that the Fed should have raised interest rates over the past six months. Contrary to this result, there has been aggressive easing, which was all but guaranteed with the arrival of the "Minsky moment."

Barbera pointed out that the Fed responded to flights of anguish but ignored flights of fancy; that is, U.S. monetary policy has been schizophrenic because of the Fed's conflicted stance toward the financial markets. He noted that the initial Taylor equation was limited to one value (the number *2*) to describe the neutral real short-term interest rate. This interest rate, however, changes between economic cycles because attitudes about long-term trajectories for economic growth change over time. Using Treasury inflation-protected securities (TIPS) to signal changing market opinion about long-term real return opportunities, Barbera and Weise calculated the Wicksellian neutral risk-free real long-term rate and replaced the neutral real short-term rate (represented by *2*) with a market-driven measure (the Wicksellian rate minus 60 basis points). This adjustment to the core CPI Taylor Rule more closely tracked the Fed's tightening regime that unfolded in 1999–2000.

The periods of interest rate easing, however, could not be explained by the adjustment outlined above. To account for panic in the asset markets and Fed easing, Barbera and Weise used credit spreads (comparing Treasury and BAA-rated corporate bond yields) to represent the Minsky term in the MWM Taylor Rule. A credit spread of 190 basis points was deemed to be neutral, and deviations from this spread justified changes in the target funds rate. The revised formula captured both Fed tightening, and easing during Minsky moments, reasonably well.

Barbera tied macro theory to swings in the Wicksell and Minsky terms of the modified rule. He described the Fed's money transmission mechanism and its New Keynesian notion that the nominal short-term rate influences the risky real long-term rate. He replaced the LM (money market) curve in the IS/LM diagram with a TM (transmission mechanism) curve, which is an explicit formula relating the real federal funds rate to the risky real long-term rate. He found that the TM curve shifted in the same direction as the IS curve during the 1999–2000 technology-driven boom, but in the opposite direction (and in opposition to the conventional wisdom) when investment opportunities fell precipitously. This directional shift occurred because the Fed recognized that the long-term risky rate did not fall, so it eased aggressively.

We operate in a system where major disappointments at business turning points simultaneously drive real return expectations and risk appetites sharply lower, observed Barbera. That sets the economy and the markets up for an adverse feedback loop that could and would end in catastrophe—if the Fed did not understand its role as lender of last resort and the need to ease with abandon to counter sharp spread widening and to lower risky real rates.

Former Fed Chairman Alan Greenspan rejected market assessments in moments of crisis: unwarranted fears were met by aggressive ease. The results of the MWM Taylor Rule tell us that Greenspan's Fed had an asymmetric attitude toward efficient markets that invited moral hazard. Adherence to the modified rule might temper the amplitudes of asset-market boom and bust cycles if Fed officials were willing to respond to financial market signals on the way up as well as on the way down.

The MWM Taylor Rule suggests that the Greenspan and Bernanke plan to slowly raise short-term interest rates was ill advised. Greenspan labeled the issue of risky real long-term rates remaining static in the face of rising short-term rates a "conundrum," while Bernanke theorized that the problem was a global savings glut. These responses did not address the problem, which was the result of the dynamics of interest rates and inflation originating in Asia (and setting the real long-term rate).

Barbera did not think that Greenspan's conundrum would become Bernanke's calamity because the United States is a big, open economy. The impending U.S. recession will be joined by deteriorating fundamentals in Europe and Japan, he said, and by general economic retrenchment worldwide. Therefore, interest rates will fall as central banks ease, and Bernanke will be spared the consequences of the flip side of his global savings glut explanation.

Session 4. Financial Market Regulation-Reregulation

Moderator: JAN KREGEL, Senior Scholar, The Levy Economics Institute.

Speakers: MARTIN MAYER, Brookings Institution; and WILLIAM KURT BLACK, University of Missouri–Kansas City.

MAYER addressed the unintended consequence of change in the trading mechanisms that has resulted in the inefficiency of computer-driven markets. He blamed Greenspan and Bernanke for the current state of affairs: instead of the Fed pushing the markets around, the markets have been pushing the Fed around.

In 1994, the Fed raised interest rates when the markets did not expect it, resulting in the collapse of the 10-year Treasury note, which was the hedging mechanism for mortgage paper. During the last years of Greenspan's Fed, there was a psychological clash between the desire for an announcement effect and the fear of surprising the market. In Bernanke's Fed, the situation is worse because traders act daily on (unhealthy) expectations of what the Fed funds rate will be after their next meeting, and markets are influenced by preprogrammed computers.

Mayer outlined the nature of trading since the 1930s, from the tape reader to the floor trader, and how these people became casualties of the Information Revolution. In the past, the basic concern was market distortion (manipulation) combined with stock prices governed by artifacts of the trading system. This concern was addressed in law, custom, and regulation. Mayer noted that the markets create synthetic instruments that are easier to trade than instruments with a juridical component, but the relationship between the artifacts and the underlying institutions is not stable. For example, a few months before the stock market crash in 1986, the Securities and Exchange Commission (SEC) gave Merrill Lynch a no-action (private) letter that suspended the up-tick rule for index-related trading on the grounds that maintenance of the prohibition of selling short into a declining market would impede the insiders' index arbitrage.

In the early days of the market, it was generally accepted that the purpose of the securities market was to provide a foundation for the expansion of economic activity. The correct pricing of corporate paper was important to the macro economy as a guide to the allocation of capital. By today's standards, market pricing of enterprise was a clunky and costly process. There was no Fed funds market, no mortgage bonds to finance housing, and no financial futures, except forward contracts for foreign currency, which was a business monopolized by the banks. The Fed set margin requirements for "purpose credit," which was money borrowed to buy and hold financial instruments. In general, the Fed ignored price movements in the stock market.

Although the functions of the markets have not changed, the markets generate an immense catalogue of prices at an incredible speed and consider an infinitely greater variety of factors in setting and changing prices. However, it is not clear that exponentially increased trading results in more accurate prices when the Fed does not dare to defy market expectations.

Mayer observed that more than half of the trading in large markets is algorithmic trading by programmed computers. However, if a fund trades indices rather than securities, the fund manager may not know the degree of leverage. At the center of the analysis is an economic philosophy of diversification and a move from investment in individual securities to investment in portfolios. Therefore, the role of knowledge and judgment is diminished and the money manager's role resembles arbitrage. Judgment of the prospects of the company that issued the stock becomes secondary to the stock's role in a larger strategy.

According to Mayer, the market as a measure of the attractiveness of an investment was never a straightforward calculation. The benchmark changes affect portfolios in unimagined ways, and the math (programming) is not self-correcting. Models fail to recognize the impact of their own proposed trades, while the hunger for numbers leads large investors to use rating agencies. Investors buy a commodities index not out of belief that commodity prices will rise, but because the index correlates negatively with the movement of stock prices. Thus, the market becomes a consumer rather than a supplier of information. The point of the exercise is no longer the allocation of resources but the income of participants—which has become a very large number.

One must consider the technology that will control the new regulations, advised Mayer. A substantial amount of reorganization is needed, and the principles of Minsky would be very useful in this context.

BLACK applied his background as a white-collar criminologist and regulator to explain why the regulatory failures under Greenspan and Bush allowed a criminogenic environment (i.e., a perverse incentive structure). He took issue with McCulley's notion that the perfect call and perfect put were assembled into one option package because that is not how fraud is optimized. Black referred to the savings and loan crisis and the characteristics of the acquisition, development, and construction loan. This loan consisted of a much better combination of options that made it a hybrid instrument, one that included substantial equity. However, appraisals associated with the stated income loans were grossly inflated, so this type of loan involved appraisal fraud in addition to many other types of frauds. At least two different players independently provided fraudulent information. On the call side, grossly inflated appraisals meant that the investment was out of the money. On the put side, there was no downside because the only risk was to one's reputation. However, the people most affected were the most marginal home borrowers, who could have become bankrupt and homeless in the process.

The equity kicker is the thing that gives value to an otherwise worthless call option, which is only in the money if there is a scam take-out sale that hides the losses. The reason that losses lag so much is that fraud actually accelerates after the "Minsky moment" and subsequent meltdown. In order to counter potential losses, people arrange a cash-for-trash deal that not only wipes out the losses but also creates a massive gain. Black lamented that economists are not taught about fraud, nor do they routinely discuss fraud techniques with a (white-collar) criminologist. Why don't the SEC and the Fed have a chief criminologist? Income loans are overwhelmingly stated because they are the best device for fraud and without risk.

The weapon of choice for fraud is accounting. It happened with the savings and loan control frauds and it is exactly what happened in this crisis, Black said. In the modern era, our executive compensation system created a criminogenic environment where fraud makes sense because it is difficult to convict people. Only 200 of 35,000 Suspicious Activity Reports (SARs) submitted to the Treasury department lead to prosecutions. Since SARs are filed only by insured institutions, these figures represent only a fraction of the actual frauds.

Internal controls become the allies of control fraud, which causes greater financial losses than all other forms of property crime combined. The person in charge of the organization uses these controls as a "weapon" to defraud, and his most valuable ally is the outside auditor. Regulatory failure is a self-fulfilling prophecy that is consistent with Minsky, Black said. Ponzi finance is the real thing, and the way to optimize an accounting fraud is to grow extremely rapidly and hyperinflate bubbles. These features increase the default rate (the level of toxic investments) and exponentially increase the losses, which are much worse than those associated with nonfraud investments. The defining element of fraud that sets it apart from theft is deceit.

Black noted that bankers do not trust other bankers because they know the games that they play with their own accounting and models. Control fraud is devastating because a person uses his entity's apparent legitimacy, power, and organization to commit a crime. For example, a CEO can optimize the firm for fraud, suborn the supposed controls and turn them into allies, convert firm assets to personal use through normal corporate means, and change the external environment to aid the fraud. Accounting fraud is optimized by overstating asset values, whereby market values are derived from proprietary models; loaning to the worst borrowers to maximize yield and fees; covering up defaults and booking new income via refinancing and sales (the cover-up phase); growing rapidly using Ponzi schemes; and using off-balance-sheet liabilities.

Allies include the appraisers, internal accountants, officers and employees, rating agencies, computerized underwriters, stock analysts, and external auditors. The transfer of accountability (the "responsibility tango") means that no one is responsible for trillions of dollars of losses, so everyone can simply leave and take their bonuses with them. This transfer is accomplished in large part through the deliberate creation of conflict of interest. A CEO is good at influencing and manipulating people. When a CEO uses accounting mechanisms with clean opinions and appraisal reports backing up a Ponzi scheme, it is almost impossible to prosecute in an environment of deregulation and limited civil suits. Theory that combines private market discipline and reputation is effective only if government moral hazard is absent, Black observed. Effective private market discipline requires effective regulation.

Speaker: MAURICE D. HINCHEY

Congressman Hinchey (D-NY) noted that President George W. Bush has tied for the worst jobs record of any American president since the Great Depression, with 3.4 million manufacturing jobs lost since 2001. Including those who are no longer collecting unemployment insurance or trying to find full-time employment, the U.S. unemployment rate is now above 9 percent. Moreover, two million homeowners will be confronted with mortgage rate increases over the next two years, while tens of millions of them could experience a decline in the value of their homes. Furthermore, oil prices are at record highs, and total revolving debt (e.g., credit cards and overdraft protection) stood at almost $1 trillion in February.

According to the Congressional Budget Office (CBO), 28 million people will depend on federal food assistance this year—the largest number since food stamps were initiated in the 1960s. Moreover, 47 million Americans are without health insurance, and major U.S. companies are in crisis. With the cutback in consumer spending, the CBO projects that the national debt will reach $10.3 trillion by the time President Bush leaves office next year.

In Hinchey‘s view, the United States has been in a recession for some time; the question is, how long and deep will it be? He observed that current circumstances are very similar to those in 1929, and that we might be on the verge of a new kind of depression, one that will have very serious economic impacts across the country. The proliferation of weapons of mass economic destruction, which is in large part responsible for this recession, includes the following: military spending in Iraq, which is crowding out domestic investments; tax cuts in favor of the wealthiest Americans; the manipulation of hedge funds; higher oil prices; and deregulation of financial institutions (the Gramm-Leach-Bliley Act in 1999).

According to a study by Joseph E. Stiglitz and Linda J. Bilmes, the direct and indirect costs of the Iraq war could exceed $3 trillion (see pp. 43–44). The Bush Administration pushed for the first major wartime tax cuts in American history, and the government has borrowed $1.6 trillion to pay for them. One-third of the total benefits of the cuts went to the top 1 percent of households in 2007, while a significant proportion were directed to households earning more than $1 million per year (i.e., tax cuts that were more than 100 times that of middle-income households). Moreover, the cuts have not had positive economic effects, and they will cost the federal government an additional $3.4 trillion over the next decade. This is more than three times the amount necessary to close the Social Security funding gap through 2075. GDP is falling because it largely depends on spending by median-income consumers, who find costs rising and their incomes falling (perhaps because their employers now have to pay $1,500 more per employee for health insurance).

The federal government intervened in the Bear Stearns case because of the legitimate fear that the collapse of the company would lead to a general collapse of the financial market. It is therefore imperative that hedge funds are regulated—something that will not happen in the context of this particular Congress and administration, Hinchey said.

The rising cost of oil reflects, not consumer supply and demand—U.S. demand for oil is actually declining—but the demand for commodities contracts, which private investment funds and other capital investors use as a hedge against a falling dollar. It is essential that the federal government and the Commodity Futures Trading Commission (CFTC) monitor some of these deals, Hinchey said. He noted that he is working with CFTC members to make it unlawful for speculators, who do not have the capacity to receive or store oil, to hedge their investments by buying commodities contracts. And he agreed with the economists who concluded that the subprime mortgage crisis was a result of the Gramm-Leach-Bliley legislation, which enables both banks and investment firms to offer financial services. (Hinchey voted against the bill.)

Since Congress will not be able to repeal the Bush tax cuts, it must ensure that the cuts scheduled to expire at the end of 2008 are not extended. For an economic turnaround, this action is needed in concert with the following: (1) the United States' military personnel and mercenaries should exit Iraq as soon as possible; (2) the Securities and Exchange Commission should regulate hedge funds; (3) oil speculation should be regulated (especially over-the-counter trading) to prevent market speculation (e.g., the price of oil could drop $30 a barrel, cutting the price of gasoline at the pump by 85 cents per gallon); (4) the Gramm-Leach-Bliley Act must be amended or repealed; and (5) we must quickly pass a second economic stimulus package that includes an increase in food stamp benefits, investment in infrastructure projects, and an expansion of unemployment benefits.

In 1931, Thomas Edison remarked that the best source of energy is the sun. Hinchey noted that the current trend toward production of "energy crops" is contributing to an increase in food prices worldwide. We have the ability to develop an alternative energy system and create a new industrial revolution, he said, and pointed to the Hudson Valley's new Solar Energy Consortium as a step in the right direction.

Strategic Analysis

Fiscal Stimulus: Is More Needed?

DIMITRI B. PAPADIMITRIOU, GREG HANNSGEN, and GENNARO ZEZZA

Strategic Analysis, April 2008

In a previous Strategic Analysis (November 2007), the authors projected serious consequences for the U.S. economy in terms of aggregate demand, output, and employment, along with a high probability for recession. Their assumed drop in household borrowing materialized, as did mounting evidence of a broader slowdown or recession. Economic and financial conditions have worsened in terms of foreclosures, house prices, and financial-market disturbances such as mortgage-related securities.

The authors focus on fiscal remedies, while acknowledging that other measures have the potential to reduce the severity of the current crisis, for example, decisions by the Federal Reserve. They explore the effects of the president's $150 billion stimulus bill that was passed in February 2008 and consists mainly of tax rebates. They also project an additional fiscal stimulus of $450 billion in combination with the bill, spread over four quarters starting in the third quarter of 2008. Regardless of the size or nature of the stimulus, they find, output will be at least 4 percent below potential by 2010 (and permanently reduced by this magnitude thereafter), and unemployment will increase by about 2 percentage points. The authors challenge the notion that a stimulus package larger and more prolonged than the one recently approved is unnecessary, and that it would generate inflationary pressures.

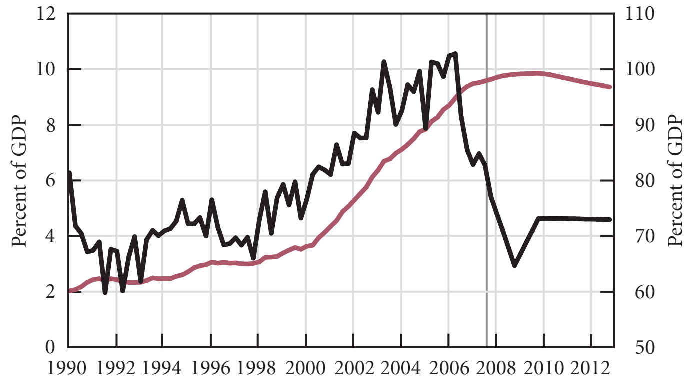
The baseline case is constructed by updating the authors' previous "soft landing" scenario and excluding the effects of the February 2008 stimulus plan. Although private sector borrowing decelerated at the end of 2007, it remained high at 5.4 percent of GDP, which implies a rising debt-to-income ratio. It is assumed to continue decelerating in 2008 before increasing slightly in 2009 and stabilizing in 2010 (Figure 1). Nonfinancial business sector borrowing increased to 8.3 percent of GDP at the end of 2007 (accelerating the business debt-to-GDP ratio) and it is projected to start dropping in the second quarter of 2008 at a rate similar to the 2000–03 period (Figure 2). Other assumptions are that the stock market will resume its trend growth in 2009, house prices will resume their upward trend at the same rate as the general price index, oil prices will not increase after the first quarter of 2008, and devaluation of the dollar will cease.

The authors note that transfers, such as tax rebates or increases in unemployment benefits, put money in the hands of U.S. residents for them to use as they please, while purchases of goods and services (e.g., public works projects) add directly to GDP. The first scenario includes the February 2008 stimulus plan. The second scenario includes a $600 billion stimulus in terms of tax cuts or transfers, while the third scenario includes a $600 billion stimulus in terms of government expenditures.

In the (optimistic) baseline case, the Levy macro model projects a further slowdown in GDP growth and a mild recession in 2008 (similar to that in 2001). Improvement in the U.S. balance of payments is key to sustaining an economic rebound. Otherwise, government spending would have to be excessive and the private sector balance would have to fall too far into negative territory.

In the first scenario, transfers of 1 percent of GDP ($150 billion) increase real GDP by approximately 0.3 percent before decreasing quickly to less than 0.1 percent of GDP after one year. Thus, a fiscal stimulus given in one period only, and taken away the next, leads to a negative shock and hardly changes the

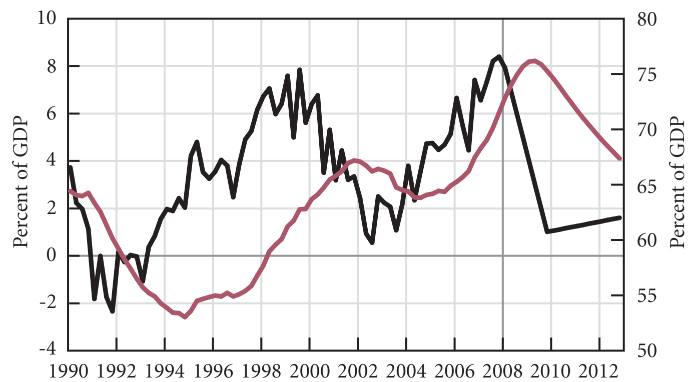
Figure 1 **Household Debt and Borrowing**



Household Borrowing (left-hand scale)
Household Debt (right-hand scale)

Sources: BEA, Federal Reserve, and authors' calculations

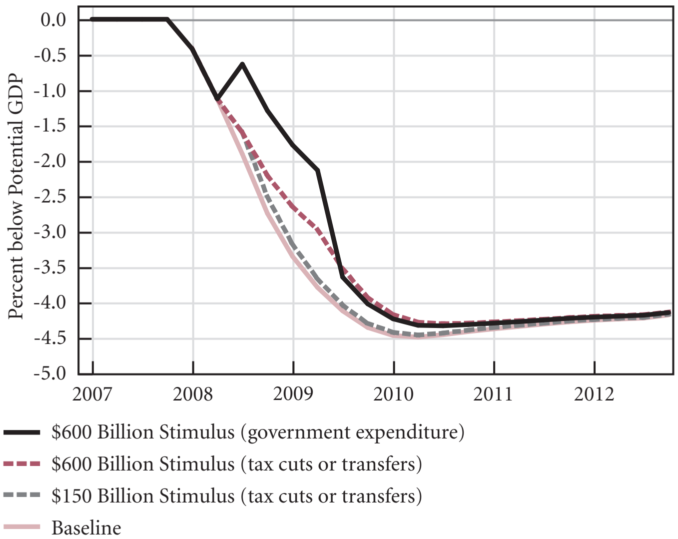
Figure 2 **Business Debt and Borrowing**



Business Borrowing (left-hand scale)
Business Debt (right-hand scale)

Sources: BEA, Federal Reserve, and authors' calculations

Figure 3 Output Loss



Source: Authors' calculations

picture. As argued in the previous Strategic Analysis, the magnitude of a fiscal stimulus must be significantly larger than 1 percent of GDP to avoid a recession.

In the second scenario, a fiscal stimulus of 4 percent of GDP ($600 billion) raises GDP by 1.2 percent over its baseline value, but it is still insufficient to counter an estimated 4 percent fall of GDP below potential. In terms of the third scenario, an increase in government expenditures is much more effective than an increase in net transfers—the output loss is at least 1 percent less than that in each quarter of the baseline scenario (Figure 3).

The first message of the simulations is that a $600 billion stimulus is not excessive. The second message is that a temporary stimulus will have only a temporary effect. An enduring recovery will depend on a prolonged increase in exports due to a weak dollar, a modest increase in imports, and closing the current account gap.

For the complete text, go to www.levy.org/pubs/sa_apr_08.pdf.

The Buffett Plan for Reducing the Trade Deficit

DIMITRI B. PAPADIMITRIOU, GREG HANNSGEN, and GENNARO ZEZZA

Working Paper No. 538, July 2008

In 2003, investor Warren Buffett suggested an incentive-based intervention to narrow the U.S. trade deficit, whereby import certificates (ICs) would be granted to exporting firms by the federal government and traded to importing firms in organized markets. Using the Levy Institute macroeconomic model, President Dimitri B. Papadimitriou, Research Scholar Greg Hannsgen, and Research Scholar Gennaro Zezza, University of Cassino, Italy, evaluate the impact of the Buffett plan on the U.S. economy. They find that the plan would initially raise the price of (non-oil) imports by about 9 percent and reduce the current account deficit (to 2 percent of GDP) more quickly than existing policies. The overall market value of the ICs would translate into greater value added for the export sector. Although the authors believe that the plan may work, they present an alternative approach, one with additional benefits.

The Levy Institute's model confirms that current account deficits run true to economic theory: the size of the deficit is determined by the relative prices of exports and imports, the aggregate demand for goods and services at home and abroad, and the degree to which world markets are integrated. Since 1992, the U.S. external deficit (mainly related to trade in goods) has been growing as a share of GDP. The authors have maintained for some time that this deficit is at an unsustainable level.

The authors find an asymmetric response of U.S. trade to growth differentials because of disparities in import elasticities between the United States and its trading partners. Since U.S. imports have a high income elasticity, the balance of payments deteriorates when the U.S. economy grows at the same pace as its partners'. They also find that the long-run elasticities of U.S. exports and imports are similar, so trade elasticities are not responsible for the widening U.S. trade deficit.

The authors explore the composition of U.S. trade. They find that the relative specialization in capital goods and industrial supplies, which account for two-thirds of the goods exported, has not significantly changed (exports are not very sensitive to relative prices). The large share of consumer goods in imports, however, may be responsible for the relatively higher import-price elasticity because of the increasing proportion of Chinese imports, which are more sensitive to relative price movements than imports from other countries. Furthermore, the U.S. export price elasticity is lower than the import price elasticity, and the United States' exports to its trading partners seem to respond more to changes in income than in price. In contrast to the classical theory of comparative advantage, both U.S. imports and U.S. exports in a given class of commodities grow together, with the notable exception of consumer goods (imports have increased dramatically, while exports have remained stable).

The authors' baseline projection is an updated version of the "soft landing" scenario in their November 2007 *Strategic Analysis*. Their assumptions imply a slowdown in GDP growth in 2008, but without repercussions toward U.S. trading partners (U.S. exports grow faster than imports and slowly reduce the external deficit). The simulation is based on econometric estimates of the components of trade and domestic demand. Substitution effects between domestic and foreign goods are captured in the model through relative price effects. The overall market value of the ICs is about 3 percent of GDP, and boosts aggregate demand while increasing oil imports; thus, slightly worsening the overall balance of payments and lowering the government deficit. This scenario is somewhat optimistic with respect to inflation, and most of the benefits accrue to the exporting industries.

The transactions associated with the Buffett plan would likely be organized along the lines of existing markets for carbon emission credits in the European Union, and would thus cap the trade deficit in goods at a fixed percentage of exports in goods. The authors outline some challenges facing the plan: the ICs would encourage firms to buy fewer imported raw materials and intermediate goods, and consumers to buy fewer imported goods; and the increase in the demand for U.S. goods would raise output and, possibly, prices for the domestic market. The substitution of American for foreign goods, and perhaps a reduction in overall spending, would initially narrow the deficit and have the greatest impact on price-elastic commodities. At the same time, ICs would be a new output for exporting firms, encouraging them to increase production (and employment) and possibly reduce their prices to foreign buyers.

Although Buffett's proposal has several advantages over other protectionist responses to the current account deficit (e.g., quotas or tariffs on specific goods and services), there is a downside: instability and uncertainty regarding the prices of the ICs; the necessity of creating liquid markets, including other complex financial arrangements; the possibility of an adverse reaction from the World Trade Organization and retaliation by U.S. trading partners; and an increase in exporters' profits at the expense of workers and firms in industries that rely on imported inputs.

The authors present an alternative method whereby ICs would be auctioned by the government directly to importers and the proceeds used to offset reductions in payroll taxes (a revenue-neutral plan). Their approach would reduce the financial complexities of the Buffett plan, leave the proceeds of IC sales in the pockets of workers, be less vulnerable to fraud and less costly to administer, and enhance economic growth over the short term. Revenues from IC sales would be sufficient to fund a payroll tax cut of about 2.4 percentage points for both employees and employers, and economic growth would be comparable to that projected in the Buffett plan.

For the complete text, go to www.levy.org/pubs/wp_538.pdf.

The Keynesian Roots of Stock-flow Consistent Macroeconomic Models: Peering Over the Edge of the Short Period

ANTONIO CARLOS MACEDO E SILVA and
CLAUDIO H. DOS SANTOS
Working Paper No. 537, July 2008

Neoclassical economists seem to prefer long-run models to describe markets, while post-Keynesian economists tend to favor short-run models. Antonio Carlos Macedo e Silva, State University of Campinas, Brazil, and Research Associate Claudio H. Dos Santo, Institute for Applied Economic Research, Brazil, argue that stock-flow consistent (SFC) models describe short-period behaviors as well as balance sheet dynamics from one period to the next. These models are compatible with the views of John Maynard Keynes on the macroeconomic dynamics of capitalist economies, so they are ideal tools for consolidating and presenting the post-Keynesian research program as a real alternative to the dominant short-run paradigm.

Most orthodox economists admit that, in the "real world," the free operation of markets yields suboptimum results (at least in the short term). This perception, combined with the belief that market failures can be more costly than government ones, has resulted in research aimed at improving suboptimum situations through economic policies and institutional reforms (i.e., the orthodox Keynesian view that also believes in the ability to generate an optimal order where general equilibrium prevails).

The question, however, is how short-run intra-agent interactions that lead to unemployment, recessions, booms, and financial crises can produce a long-run equilibrium. The route between the short run and the long run is unknown.

According to the authors, the literature does not deal with the explicit connections between the passage of time and optimality, nor does it try to model balance sheet dynamics rigorously. They note that Keynes's *A Tract on Monetary Reform* (1923) does not dispute the existence of an optimal long-period equilibrium, but it does question the efficiency of markets in promoting the convergence to equilibrium. They also note that in the American post-Keynesian tradition (e.g., economists such as Paul Davidson, Jan Kregel, and Hyman P. Minsky), the analysis has changed from long-run positions to long-run expectations and provides a clear description of the complexities associated with investment decisions in conditions of radical uncertainty. The authors believe that the middle ground between the excessive emphasis on the short term and the long term is represented by the SFC models originally proposed by James Tobin and subsequently developed by Wynne Godley.

The authors review Keynes's works, including *The General Theory of Employment, Interest, and Money* and *A Tract on Monetary Reform*. In his *General Theory*, Keynes presents the basic elements of a theory of portfolio decisions and provides insights related to the dynamics of (capitalist) economies over longer periods and the full economic cycle. Post-Keynesians have tried to restore the economic actors and institutions emphasized by Keynes in terms of the role of banks, the stock market, and nonfinancial agents ("savers"). In his *Tract*, Keynes splits society into three "classes" (investing, business, and working) and integrates them into the study of various economic themes (e.g., growth, inflation, and the distribution of income and wealth). The authors call attention to the affinity between the characteristics of the SFC approach and Keynes's emphasis on the importance of considering explicitly the different interests and interdependencies of various economic agents. They find that SFC models are theoretically close to formal Minskyan models.

The first step toward building SFC models is to define the relevant economic agents, along with their respective assets and liabilities. In the 1970s, many Keynesians converged around a model where the short-period equilibrium in a closed capitalist economy depends on the interrelated behavior of households, firms, government, and the financial sector. According to the authors, the general point is that the implicit transactions within each (short-period) Keynesian equilibrium have nontrivial balance sheet implications. Thus, the linking of short periods presupposes that the implications of each period are rigorously mapped, and that they will affect the agents' portfolio decisions in the following period. It is also important to specify how the parameters of the behavioral functions vary from period to period.

In the authors' opinion, SFC models allow a wider, more precise, and explicitly dynamic approach to a Keynesian modeling of the passage of time. The analysis of sequences of short- and long-period equilibria can be useful both for *ex post* historical analyses and for future scenarios. In the construction of SFC models, it is possible to introduce disequilibria and simulate steady states that are useful versions of the long-period equilibrium as defined in the *General Theory*. These steady states include the expectations of all economic agents about the flows, stocks, and prices in a capitalist economy with complex financial markets.

The authors acknowledge that the characteristics of the three kinds of SFC model trajectories are present in the Levy Institute's *Strategic Analysis* series on the U.S. economy, which is based on a macroeconomic model developed by Distinguished Scholar Wynne Godley. The lesson to be learned from Godley's analysis is that the tracking of sectoral balance sheets under the heroic hypothesis of constant behavioral parameters allows powerful insights about what is likely to happen in the near future.

For the complete text, go to www.levy.org/pubs/wp_537.pdf.

Program: Monetary Policy and Financial Structure

The Collapse of Monetarism and the Irrelevance of the New Monetary Consensus

JAMES K. GALBRAITH

Policy Note 2008/1

Milton Friedman defined monetarism as the proposition that inflation is everywhere and always a monetary phenomenon. This meant that money and prices are tied together, money is a policy variable, and free and unfettered markets are intrinsically stable. According to Senior Scholar James K. Galbraith, University of Texas at Austin, Friedman and the new monetary consensus are wrong, and irrelevant to the problems faced by monetary policy today. Rather, the relevant economics are associated with John Maynard Keynes, John Kenneth Galbraith, and Hyman P. Minsky.

Galbraith notes that Friedman's success was consolidated in the late 1970s by the strength of the monetarist regressions, the failure of the Keynesian Phillips curve, and the fact that stagflation happened. He also notes that he played a minor role in bringing monetarist ideas to the policy market while designing the Humphrey-Hawkins hearings on monetary policy (1975–78). He further notes that monetarism subsequently collapsed, and that the Federal Reserve (Fed) dumped monetary targeting in August 1982. By the mid-1980s, the rigorous monetarism Friedman had championed also faded from academic life.

In the aftermath of monetarism, a sequence of doctrines carried a similar policy message: the non-accelerating inflation rate of unemployment (NAIRU, introduced by Friedman and Edmund Phelps), the natural rate of interest (Knut Wicksell), and inflation targeting (Ben Bernanke's "new consensus" monetary policy). These doctrines were more vague and imprecise than monetarism, and also defective, says Galbraith. Unemployment fell below successive NAIRU barriers and did not lead to inflation, Wicksell's idea was unsupported by actual research or theory, and Bernanke's doctrine is false. In the "new consensus" view, monetary policy can reduce inflation permanently and at a cost to output and employment that is far less than in common Keynesian scenarios. Furthermore, a determined independent central bank can acquire credibility for low inflation without an institutional mandate from the government. Moreover, a well-timed aggressive interest rate tightening can reduce inflation expectations and preempt a resurgence of inflation without creating a recession.

Galbraith observes that there was nothing in monetarism or the new monetary consensus that anticipated the extraordinary financial crisis that broke over the housing sector, the banking system, and the world economy in August 2007. In his view, Friedman (and Anna J. Schwartz) were right on the broad principle—monetary forces are powerful—but wrong in its application. For example, the Fed alone did not "cause" the Great Depression. Rather, intrinsic flaws in the financial, corporate, and social structure, combined with bad policy both before and after the crash, were jointly responsible for the disaster, while the crash itself played a precipitating role.

The danger, today, is that something similar could again happen. The present (financial) collapse is the result of rising interest rates in conjunction with the failure to regulate subprime loans, a permissive attitude toward securitization, repeal of the Glass-Steagall Act, and a policy shift that turned the work of government over to bankers. In response, Bernanke should acknowledge the instability of capitalism, the irresponsibility of speculators, the necessity of regulation, and the imperative of intervention.

For the complete text, go to www.levy.org/pubs/pn_1_08.pdf.

Securitization

HYMAN P. MINSKY

PREFACE AND AFTERWORD BY L. RANDALL WRAY

Policy Note 2008/2

Hyman P. Minsky, a distinguished scholar at the Levy Institute prior to his death in 1996, wrote a memo on the nature and implications of securitization in 1987. Senior Scholar L. Randall Wray, Center for Full Employment and Price Stability, University of Missouri–Kansas City, presents Minsky's memo and suggests that it be read in conjunction with Public Policy Briefs No. 93 and No. 94 (see pp. 31–32) and Working Paper No. 530 (pp. 32–33) to understand how securitization has helped to create the current financial crisis.

Over the past decade, there has been a transformation of the financial system, away from regulated financial institutions and toward (unregulated) financial markets. One result of this transformation is the emergence of a particularly unstable (and inequitable) form of capitalism that Minsky termed "money manager capitalism." There has also been an increasing reliance on credit-rating agencies and accounting firms, which has reduced oversight by both bank loan officers and government supervisors. Downside risks have been ignored in keeping with the belief that depressions and debt deflations are no longer possible, courtesy of Big Bank (Federal Reserve) and Big Government (Treasury) interventions. Moreover, the transformation of the financial structure of the economy has produced growing inequality and rising insecurity for most Americans. Minsky therefore advocated policies to reduce uncertainty while enhancing stability and democracy (e.g., strong trade unions, universal health care and education, full employment policies, higher minimum wages, community-development banks, and regulation of money managers).

Minsky argued that securitization resulted from two developments: the globalization of finance and the declining importance of banks in favor of managed money. He observed that securitization began in the U.S. mortgage market, and enabled thrifts to continue to initiate mortgages even though their funding ability was sorely compromised. He also observed that securitization has expanded well beyond the thrifts and mortgage loans, and has led to the creation of financial paper that is eminently suitable for a global financial structure. The creation of paper links the present and the future, as expectations of cash flows serve as both a source of funds and the validation of prior commitments. The underlying financial instruments (e.g., home mortgage loans) and the cash flows they are expected to generate are the proximate basis for issuing marketable paper.

Securitization and globalization reflect the new technology of communication, computation, and record keeping. Securitization also reflects a change in the weight of market and bank funding capabilities, where costs have forced banks to supplement fund income with fee income. Although it throws light on the nature of money and implies that there is no limit at banks' inventiveness in creating credits, securitization lowers the segment of the financing structure that the central bank is committed to protect.

Minsky pointed out that there are two fundamental banking interfaces: the relation between the bank and its debtors (held as bank assets), and the relation between the bank and its funders (holders of the banks' liabilities), which include households (as the ultimate owners) and intermediaries. The bank's balance sheet disappears from the financing once the securitized transactions are completed.

Minsky outlined the players and process of securitization in terms of the debtor, the paper creator, the investment banker, the trustee, the servicing organization, the rating services, the maker of the secondary market, and the funders. Wray notes that Minsky argued that the New Deal reforms related to home finance had been spurred by a common belief that short-term mortgages, typically with large balloon payments, had contributed to the Great Depression. Ironically, the "innovations" in home mortgage finance and the speculative boom (including securitization) have largely re-created those conditions, says Wray. We might justifiably wonder whether "It" (another debt deflation) could happen again.

For the complete text, go to www.levy.org/pubs/pn_2_08.pdf.

Financial Markets Meltdown: What Can We Learn from Minsky?

L. RANDALL WRAY

Public Policy Brief No. 94, 2008

The current financial crisis has not only gripped the media on a daily basis and affected the average American in terms of housing and personal consumption, but it has also raised questions about the viability of the financial system. The U.S. and world economies are heading toward recession, and the Federal Reserve is attempting to stem the tide by reducing interest rates and acting as the lender of last resort. Stock markets have declined and become increasingly volatile, and the extent of the economic downturn is uncertain.

In a series of papers, Levy Institute scholars warned that the continuation of current practices and policies in the United States meant that a crisis was inevitable. Hyman P. Minsky's financial fragility hypothesis is frequently used to explain the current crisis. Minsky hypothesized that the structure of a capitalist economy becomes more fragile over a period of prosperity. As expressed in this brief by Senior Scholar L. Randall Wray, University of Missouri–Kansas City, the belief that the world is now more stable and less vulnerable to "shocks" (the "Great Moderation") allowed greed to trump fear. According to Wray, Minsky would label the faith in the era of the Great Moderation a "radical suspension of disbelief."

Wray explains the historical development that led to today's complex and fragile financial system and how the seeds of crisis were sown long ago by lax oversight, risky innovations, and deregulation during a lengthy period of relative stability. Irrational exuberance, which was based on the belief in the "New Economy" in the 1990s, and unprecedented real estate appreciation, which validated increasingly risky Ponzi finance in the 2000s, are the result of long-term, policy-induced, profit-seeking financial innovations.

The traditional role of banks evolved in order to mitigate the risk of another debt deflation rivaling the Great Depression. However, government relaxed regulations so that banks could take direct positions in all aspects of the financial system. According to Wray, many of today's problems can be traced back to securitization (the "originate and distribute" financial model), leverage, the demise of relationship-based banking, and the dizzying array of extremely complex instruments that only a handful understands.

Asset price depreciation will not be restricted to residential real estate, says Wray. As economic activity slows, there will be revelations of problems throughout the entire financial sector. He estimates that the combined losses could amount to several trillion dollars (in a $13 trillion economy). Moreover, the United States will feel the effects of the current crisis for some time—perhaps a decade or more.

Wray notes that the policy initiatives of the George W. Bush Administration appear to be designed to help creditors rather than debtors, and he instead recommends much larger stimulus packages, which are probably politically infeasible. A return to stagflation looks increasingly likely, as it will be difficult for the United States to grow its way out of the problem.

Wray discusses lessons from Minsky that could be used to reformulate policy and deal with the present crisis. He calls for mortgage relief that stabilizes the real estate sector and reform that amends the bankruptcy laws. He also calls for preserving home ownership and creating a new institution in line with President Franklin D. Roosevelt's Home Owners' Loan Corporation. According to Minsky, government should act as the employer of last resort in order to eliminate involuntary unemployment and reduce inequality and poverty. Minsky preferred policy that would promote small- to medium-size financial institutions (rather than their consolidation), and policy that was biased toward market segmentation.

We must return to a more sensible model, with enhanced oversight of financial institutions, says Wray. Monetary policy should stabilize interest rates, maintain direct credit controls, and strengthen its supervisory and regulatory functions. Furthermore, bailouts will be required. As Minsky put it, "A financial crisis is not the time to teach markets a lesson by allowing a generalized debt deflation to 'simplify' the system."

For the complete text, go to www.levy.org/pubs/ppb_94.pdf.

Changes in the U.S. Financial System and the Subprime Crisis

JAN KREGEL

Working Paper No. 530, April 2008

After 25 years of stability in the financing of housing through securitized mortgages, the market for these mortgages has brought the global financial system to the brink of collapse. Senior Scholar Jan Kregel, Center for Full Employment and Price Stability, University of Missouri–Kansas City, traces the evolution of housing finance in the United States, outlines the reasons for the current crisis in real estate lending, and examines the impact of the crisis on the global financial system.

Kregel notes that market conditions for selling houses in the United States are unlikely to return to normal levels before 2010. Weakness in the housing sector will have a negative impact on economic growth and employment, while tighter credit standards will also constrain recovery. Short-term credit spreads have risen to record levels as a result of uncertainty over creditworthiness and a liquidity crisis in the short-term money markets. Moreover, market weakness is spreading to the commercial real estate sector, as well as to other countries.

Kregel outlines the role of government-sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac, deregulation, the rise of investment banks interested in trading mortgage assets, and the collapse of the savings and loan banks. The shift away from direct borrowing by the government required alternative sources of funding through sales to private investors; that is, the creation of mortgage-backed securities. These structures were the basis for the development of new financial instruments that have played a major role in the recent market crisis.

The process of building a market for collateralized residential mortgages began in 1977. The pass-through cash flows from the underlying mortgages were separated into specific income flows of different maturity called "tranches." Collateralized mortgage obligations (CMOs) redistributed the prepayment risk among these tranches. This redistribution required a reform of the tax code—the development of a real estate mortgage investment conduit (REMIC)—to ensure a tax-exempt structure for the securitization. The issuer was required to create a special-purpose entity that would hold the mortgages as collateral and funnel payments of principal and interest from borrowers to investors. When the thrift crisis began in the 1980s, CMOs structured as REMICs quickly dominated the market and housing finance passed from the thrifts and the GSEs to private investment banks.

Three factors have affected the stability of housing finance. First, the mortgage market changed from one of "buy and hold" (the difference between deposit and lending rates generated the income) to one of "trade" (the difference between buying and selling prices generated the income), where asset marketability (not credit assessment) is the major concern. Second, the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 eliminated the segmentation of the U.S. financial system and allowed the creation of bank and financial holding companies that could operate in any line of business. Third, after the collapse of the dot-com bubble and equity market, financial holding companies sought to replace their earnings from initial public offerings and brokerage by responding to investor demand for real estate assets.

The mortgages funded by securitization shifted the risks from the originators of the CMOs to the buyers of the collateralized securities, and the revenues did not require regulatory capital. Moreover, a financial holding company could maintain a number of special units for originating and servicing mortgages, whereby each unit charged fees and collected commissions. Thus, profits increased as the number of mortgage originations rose.

The requirement for mortgages to conform to GSE conditions created mispricing between prime and subprime mortgages, and rapidly declining standards for the nonconforming mortgages included in the CMOs created by the larger financial institutions. The loans used as collateral for the CMOs were of low quality, with virtually no credit assessment (e.g., NINJA loans—no income, no job, and no assets), and adjustable-rate mortgages were offered in order to make the subprime loans more attractive.

Credit-rating agencies assessed the subprime loans that were used to back the CMOs, but they had little experience of structured assets. The ability to predict the actuarial experience of default was completely lacking for the new class of borrower and the new asset class. Moreover, the degree of overcollateralization that was required for these structures declined.

In order to ensure sufficient demand for the growing number of collateralized subprime securitizations, structured investment vehicles were created off the banks' balance sheet. These vehicles were highly levered with credit, liquidity, and interest rate risks. Furthermore, the banks offered credit enhancements (e.g., to repurchase the securities if they declined in value, and monoline guarantees) in order to attract buyers for the various tranches of the CMOs, and they were often forced to write credit default swaps themselves. Finally, the residual tranches were generally sold to highly levered hedge funds that had borrowed from the financial holding companies that had originated the CMOs.

The subprime market was stable as long as the number of new mortgage originations increased and house prices rose under conditions of falling interest rates. When the Federal Reserve reversed its accommodative monetary policy and delinquency rates increased in 2005, the number of foreclosures rose, placing pressure on house prices. Mortgages used to collateralize the structured mortgage obligations were returned to the banks. Many of the banks had insufficient capital adequacy ratios and were subsequently required to report additional losses when the market for CMOs collapsed.

At this time, credit-rating agencies started to downgrade their investment-grade ratings for these securities. Investors who required investment-grade ratings were forced to sell the securities, further forcing down prices and reducing demand for subprime-backed CMOs. When the banks and monoline insurers were unable to meet their credit default swap and guarantee commitments, the agencies downgraded the monoline insurers, which led to further downgrading of CMOs and more selling pressure. Thus, no counterparty in the short-term money market could be considered creditworthy. In order to calm the markets, major U.S. and European banks borrowed equity capital from sovereign wealth funds and foreign investors at above-market rates.

For the complete text, go to www.levy.org/pubs/wp_530.pdf.

The International Monetary (Non-)Order and the "Global Capital Flows Paradox"

JÖRG BIBOW

Working Paper No. 531, April 2008

The worldwide economic boom since 2003 has resulted in unprecedented global imbalances and given rise to a global capital flows paradox, whereby capital flows have changed direction (from poor to rich countries) because of surging foreign reserve accumulation. Research Associate Jörg Bibow, Skidmore College, investigates the paradox and related dollar glut, and hypothesizes that the root cause is systemic deficiencies in the international monetary and financial order. The position of the United States as the issuer of the world's premiere reserve currency, combined with its supremacy in global finance, explains the conundrum of a positive investment income balance despite a negative international investment position.

Bibow finds that a credit crunch is unfolding, and he doubts that recapitalization will address the scale of the damage to bank capital. He also finds that the Bush fiscal stimulus package will be insufficient to restart the engine of private spending. Therefore, decoupling is necessary to sustain global growth and unwind the imbalances. He suggests that the time is ripe for an international monetary and financial order as conceived by John Maynard Keynes.

Keynes proposed a new monetary standard and system liquidity largely detached from gold (and its key defect, imposing deflationary adjustments). His bancor plan was designed to rob countries of any mercantilist option but grant them national policy space to manage domestic stability within a symmetric and cooperative international order. All countries would be under pressure to run balanced external positions over time, while having access to official international liquidity to bridge temporary imbalances.

The Bretton Woods regime, however, rejected Keynes's proposal. It established a U.S. dollar standard with a gold conversion component and eased capital controls (the international financial system was detached from proper regulation). The regime failed because of dollar abundance (from U.S. official aid, foreign direct investment, and U.S. trade deficits) and because the pressure to adjust toward a global equilibrium was placed on the deficit, rather than the surplus, countries. Exchange rate realignments were not quasi-automatic, as envisioned by Keynes.

The regime gave way to "non-order" as a result of deregulation, (capital account) liberalization, floating exchange rates, and financial globalization; and in spite of promises to enhance efficiency and stability through market discipline, and to increase national policy space. There is no evidence to support these promises, says Bibow. Rather, the developing countries that have relied less on foreign finance have grown faster in the long run. Emerging markets are more prone to "speculative attacks" and contagion, and they are defenseless relative to the large global players. Financial globalization has led to economic instability and insecurity, and the International Monetary Fund appears to bail out the rich lenders rather than help the countries in crisis.

Bibow notes that the global capital flows paradox stemmed from the Asian crisis in the 1990s, which was the turning point in the behavior of emerging market economies and in the rise of global imbalances. He also notes that today's unprecedented imbalances feature some important recurring elements (e.g., the role of the United States as the "locomotive" of world growth, oil prices, dollar depreciation, and the U.S. current account position with Japan and Europe). Moreover, countries that experience large interest rate declines run sizable current account deficits.

In response to low interest rate policy by the Federal Reserve (Fed) in reaction to cyclical weaknesses in the U.S. economy, net private capital flowed from the developed to the developing countries. Prior to 1998, the developing countries allowed their real currencies to appreciate against the U.S. dollar. After 2002, these countries depreciated their currencies to maintain competitive exchange rates, which became the cornerstone of their export-led development strategies, and to prevent reoccurrence of their external vulnerability.

Record global economic growth has been sponsored by expansionary U.S. fiscal and monetary policies. However, the "global savings glut" (and its underlying "loanable funds" theory of interest)—the Fed's explanation for the depressed global (and U.S. mortgage) interest rates—is fatally flawed, says Bibow. According to liquidity preference theory, the United States expanded because spending growth exceeded income growth, global imbalances soared, policy (interest) rates were low, and interest rate expectations were benign as a result of new global supply-side opportunities and weak labor market pressures. Greenspan's "bond market conundrum" can be attributed to a global dollar glut arising in an environment of deficient demand in the product markets.

Bibow observes that the U.S. public debt ratio has been stable since the 1990s, in contrast to the trend rise in the household sector debt ratio. The U.S. (and global) economic boom was not financed primarily by public debt, but by private consumer (mortgage) debt. The Fed's "easy money" and other policies played a role in the Minskyan boom-bust cycle after 2001. He also observes that the U.S. external debt ratio has been stable since 2001 and that, despite its net-debtor position, the United States continues to enjoy a positive investment income balance. The United States seems to have found a solution to the challenge posed by Evsey Domar that the interest rate payable on the external debt must not exceed the rate of economic growth needed to keep the external debt stable. It appears that free capital mobility magnifies the benefits of reserve currency issuance and financial supremacy.

The sustainable symbiotic relationship between the United States and its creditors is questionable, says Bibow. The developing world holds excessive reserves as a form of insurance, but it is also paying a premium by taking out insurance to secure national policy space under the existing international monetary "non-order" when alternative arrangements are more equitable and efficient. (The size of the insurance premium is measured in terms of the yield spread between U.S. Treasuries and domestic assets sold or issued by central banks to sterilize their reserve accumulation.) The irony is that free capital mobility for the developing world seems to require huge safety buffers in the form of low-yielding foreign assets, sourced from both current account surpluses and private capital inflows. Apparently, foreign saving is not needed for growth and development.

An immediate concern is whether the developing world can draw on its insurance in times of need and decouple from the United States in order to sustain global growth. However, there are structural factors in the way. The U.S. consumer is not easily replaceable and the industrial production structures in export-oriented emerging market economies are geared toward high-income economies.

For the complete text, go to www.levy.org/pubs/wp_531.pdf.

Old Wine in a New Bottle: Subprime Mortgage Crisis—Causes and Consequences

MICHAEL MAH-HUI LIM

Working Paper No. 532, April 2008

Lim, Nippon Foundation Fellowship for Asian Public Intellectuals, Penang, Malaysia, examines the subprime mortgage crisis and the reasons why financial imbalances and innovations have magnified risks for the global financial system. The trigger for the financial crisis was the collapse of the housing bubble (beginning with defaults in subprime mortgages). The fundamental causes of the crisis, however, were the financial innovations over the last three decades (i.e., Ponzi financing à la Minsky). Although the initial negative impact on liquidity in the money market system has been alleviated through massive liquidity injections by central banks, Lim suggests that the problem could escalate to one of insolvency.

The U.S. housing mortgage party is over. After median house prices shot up 40 percent between 2000 and 2006 (to $234,000), prices are now expected to fall sharply, resulting in significant declines in household wealth and increases in default and foreclosure rates. Subprime loans represent one-quarter of the housing mortgage market and when borrowers began to default, there was an implosion of mortgage-backed securities (MBSs) and collateralized debt obligations (CDOs). Banks—the traditional home loan provider—were overshadowed by mortgage companies and real estate developers and MBS instruments allowed these institutions to transfer the risk to other investors. The dissociation of asset ownership and risk encouraged poor credit assessment and was fundamental in reducing the margin of safety and increasing the margin of risk.

The credit squeeze in the subprime mortgage sector quickly spread to other financial instruments such as conduits, leveraged buyout transactions, monoline bond insurers, credit default swaps, and consumer loans. Conduits engage in funding mismatch by borrowing short term in the commercial paper market to invest in long-term, higher-yielding assets such as MBSs and CDOs. Since conduits can draw on the banks' credit lines, the risks returned to the banks and were the primary reason why the money market froze up in September 2007.

Lim examines the structural causes of the financial bubble and the role of human agency, in particular, hubris (e.g., the end of financial history and the arrival of a new era) and herd mentality. The structural causes relate to three types of imbalances—

current account, wealth and income, and sectoral—that are a consequence of modern capitalist growth.

Most Asian countries have large current account surpluses and foreign exchange reserves. In 2006, foreigners held 44 percent of the U.S. public debt, which was $5 trillion. Household private debt, corporate debt, and financial sector debt were $12.8 trillion, $9 trillion, and $14.2 trillion, respectively. In 2007, the U.S. current account deficit ($790 billion) was 93 percent financed by the combined current account surpluses of China, Japan, Germany, and Saudi Arabia. Not only is the United States the largest debtor nation in the world, but poorer nations are financing the spending habits of U.S. households and corporations, and the U.S. government.

Rising income and wealth inequality stems from underconsumption, which is the result of market-driven growth where the distribution of income and resources is increasingly unequal (e.g., China). Higher productivity goes mainly to capital rather than labor. Since the small minority with excess wealth can only consume so much, the excess wealth must be reinvested. The raison d'être of capitalism is not consumption but investment to yield higher profits. In the midst of today's credit crunch, there is excess liquidity in the financial system looking for profitable investment opportunities (e.g., sovereign funds).

One of the most serious imbalances is the amount of financial and human resources pumped into the financial sector (and the rewards reaped by its titans). The ratio of global financial assets to annual world output has increased from 109 percent in 1980 to 316 percent ($140 trillion) in 2005. Turnover in traditional foreign exchange markets has increased to $3.2 trillion per day and the over-the-counter derivatives markets have reached $2.1 trillion per day, compared to world trade at $12 trillion *per year*. The traditional idea of M1, M2, and M3 (U.S. money supplies) as the core of liquidity is no longer valid. Derivatives now account for 80 percent of the global liquidity market, which is estimated at $607 trillion, or 12.5 times global GDP. Central banks have little control over the global liquidity market and are hard pressed to influence the cost of capital, which has been at historic lows with low volatility (otherwise known as the "new monetarism"). What happens in the financial markets dictates what happens in the real economy.

The loose and stable monetary framework, combined with excess liquidity and technological and financial innovations, is responsible for the explosion of financial markets. Within commercial banks, there has been a rise in investment banking, which is riskier and more volatile than lending activities. A major reason for the popularity of structured investment vehicles and private equity funds is that disclosure, regulation, monitoring, and taxes can be avoided. Moreover, the system demands profit maximization and measures individual performance in terms of profit. Thus, activities such as trading in securities and derivatives that use less capital and produce higher economic value added are promoted because the incentive structure invites people to take more risks. However, while risk is dispersed for the individual players, it is amplified for the system as a whole. Additionally, the fundamental shift in credit assessment has dramatically undervalued and mispriced risks. Furthermore, there is liquidity (behavioral) risk beyond credit, market, and operational risk. When trouble strikes, the effect is contagious, ultimately leading to a crisis of confidence.

The steepening of the yield curve primarily benefits banks and financial institutions, and helps repair their balance sheets. It is doubtful that lower interest rates will translate into benefits for borrowers. For the first time in 50 years, the banks' federal reserves are negative, with losses of $100 billion as of January 2008—an amount that could multiply tenfold if defaults spread to consumer loans, credit cards, and corporate lending. This is equivalent to wiping out the total capital of U.S. banks, and could represent the biggest banking crisis since the Great Depression.

Lim notes that every time there is a major financial crisis due to lax credit, excessive risk taking, speculation, and poor corporate governance, central banks and governments have stepped in under the assumption that these institutions are too large and important to fail. This action encourages risk taking and bad behavior.

For the complete text, go to www.levy.org/pubs/wp_532.pdf.

The Discrete Charm of the Washington Consensus

JAN KREGEL

Working Paper No. 533, April 2008

Senior Scholar Jan Kregel, University of Missouri–Kansas City, assesses the performance of domestic demand management and industrialization in Latin America, and the validity of Washington Consensus policies. He suggests reform of the international financial architecture in line with the Havana Charter (which blended the aims of full employment and domestic industrialization for developing countries) and John Maynard Keynes's "clearing union" proposal (to counter the negative impact of free capital flows and the debt problems of developing countries).

The development strategies in Latin America have vacillated between an outward (export-oriented) strategy and an inward (domestic-demand) strategy. After the collapse of the Bretton Woods system in 1971, the domestic-demand strategy was ill suited to the globalization of financial flows, leading to a debt crisis and hyperinflation. The rapid increase in external financing placed a heavy burden on Latin America's balance of payments, which could only be financed by foreign borrowing where debt servicing required a sort of Ponzi scheme. When former Federal Reserve Chairman Paul Volcker's monetary policy increased the interest payments on foreign borrowing in 1979 and drove countries toward insolvency, the Brady Plan allowed the indebted countries to return to the international capital markets to refinance their external debt.

The Brady Plan required measures that would attract private international capital flows, leading to a return to an outward strategy where comparative-advantage trade financed by external resources acted as the engine of growth. These neoliberal policies were codified in the Washington Consensus but they did not lead to further investment, employment, and economic growth. Rather, financial crises similar to those in the 19th century returned to Latin America.

Most of the experimental heterodox and orthodox stabilization plans in Latin America were grounded in an exchange rate anchor. While the official opinion supported floating exchange rates, public opinion in developing economies linked exchange rate depreciation with inflation (hyperinflation). Moreover, floating and flexible exchange rates led to periods of sustained currency overvaluations (e.g., Mexico and Brazil) in line with the early successes of stabilization policies. Any attempt at devaluation against market sentiment would simply reinforce market expectations of future appreciation, observes Kregel—and lead to increased speculative capital inflows that would confirm them.

In both development policy and economic theory, there was a return to pre-Keynesian (classical) orthodox positions and the belief that developing countries did not need a special theory of economic development. Influential Latin American business and commercial interests supported these notions. However, the breakdown of the Bretton Woods stable exchange rate system, and the move to open international capital markets and floating exchange rates, changed the conditions facing developing countries in the last half of the 20th century. The return to price stability and the tendency toward overvaluation were the result of strong capital inflows (the Brady Plan) that were reinforced by Washington Consensus–style reforms, including privatization and trade liberalization. However, the success in eliminating inflation was the result of a process driven by direct investment and speculative capital inflows that was not sustainable.

Kregel notes that there has been little agreement on the reasons for the failure of the Washington Consensus (e.g., the inappropriate use of nominal exchange rate anchors versus the neglect of reforms such as labor market liberalization and countercyclical fiscal policy). He also notes that the sound macroeconomic fundamentals to fight inflation were not the same as the strong microeconomic fundamentals to transform domestic industry and increase exports in the face of foreign competition. The problem with the Washington Consensus was that its success in eliminating inflation relied on high levels of capital inflows (in combination with current account surpluses) that produced overvalued exchange rates and impeded domestic restructuring, which was required to improve growth and employment. Moreover, the Consensus expected countries to maintain competitive currencies, which were difficult to achieve in the absence of exchange controls on capital inflows.

The interest differentials that produce large capital inflows and currency overvaluation also create interest differentials in favor of financial assets rather than domestic corporate restructuring. In addition, the asset portfolio of banks is dominated by loans to the government rather than the private industrial sector. The impact of overvalued exchange rates aggravates these problems.

A major reason for the failure of the Washington Consensus to provide the basis for industrial transformation and recovery was its success in reducing inflation. The paradox is that it provided stability to the financial system at the same time that it reduced its contribution toward financing the industrial system. Based on the experience of the 20th century, external capital inflows were responsible for the demise of import substitution and Washington Consensus policies. There is little empirical evidence that foreign financial inflows increase domestic investment, but there is evidence that these inflows increased consumption rather than investment in Latin America. Thus, there is no justification that free capital movements will ensure a more equal distribution of capital across countries and a high global growth rate.

For the complete text, go to www.levy.org/pubs/wp_533.pdf.

Program: The Distribution of Income and Wealth

Levy Institute Measure of Economic Well-Being

Statistical Matching Using Propensity Scores: Theory and Application to the Levy Institute Measure of Economic Well-Being

HYUNSUB KUM and THOMAS MASTERSON
Working Paper No. 535, May 2008

Statistical matching is used to link data sets in order to create a file with variables that are not jointly observed in any existing data set. Hyunsub Kum, Seoul National University, South Korea, and Research Scholar Thomas Masterson describe the statistical matching technique used to produce the synthetic data set for the Levy Institute Measure of Economic Well-Being (LIMEW).

The LIMEW is a comprehensive income measure of the U.S. (national) population that integrates many sources of information about households. The authors apply statistical matching to two national surveys that have never previously been combined using this technique: the 2001 Survey of Consumer Finances (SCF) and the March 2002 Current Population Survey Annual Demographic Supplement (ADS). The SCF includes information about the components of wealth, the types of debt, and demographic information, which allows the calculation of net worth values at the household level. The ADS is the most widely used U.S. household survey data for income and demographics that also includes information about labor markets.

Statistical matching is founded on the assumption that the separate data files are randomly and independently drawn from the same population. Its objective is to combine files so that the distribution of donated variables remains essentially unchanged. After harmonization (i.e., the process of making sure that common variables are defined as identically as possible), attached weights in the donor file are adjusted so that their sum is comparable with the sum of weights in the recipient file. The authors treat the SCF as the donor file and the ADS as the recipient file.

In a common statistical matching framework, files are combined using a distance function that is constructed from the common variables in both files. The variables of the donor file are then added to the recipient file in order to create a new and complete (synthetic) file. Combining the files is possible only if the conditional independence assumption criterion applies; that is, specific variables are conditionally independent given the common variables.

The authors use a constrained statistical matching (CSM) technique based on estimated propensity scores. The main task of statistical matching is to search for a donor record whose observed values of the common variables are closest to those of the recipient (using an algorithm based on nearest-neighbor matching). In CSM, records are matched according to rank of a calculated score rather than the absolute values of the common variables or the distance measure itself.

The strata variables in the matching process for the LIMEW are family type, elder status, race, home ownership, and household income category. When the variables are combined, there are 120 discrete cells in each file for which propensity scores can be estimated. Because the ADS has a relatively fat "tail" at the lower end of the income distribution, additional care is taken for the underlying differences between the data sets during the matching process. All of the records for each file are then sorted by estimated propensity scores (in ascending order) and weight sizes (in descending order). Matching is performed in an iterative and hierarchical process beginning with the smallest cells, which are then combined into coarser cells using an ad hoc approach.

Statistical matching is considered a success if the marginal and joint empirical distributions of the recipient variables (given the common variables) approximate those of the donor file; that is, discrepancies between two independent random samples drawn from the same population should not be large. In this paper, the similarity of both files is evaluated by calculating Lorenz coordinates and Gini coefficients, as well as decile values and their ratios. The donor variables are five classes of assets, two classes of debt, and net worth. Since the "unscaled" (unadjusted) ratio of the variables is closer to unity than the "scaled" ratio, the unscaled ratio is used in the final, synthetic file.

While the preceding analysis sheds light on the similarities between the imputed and original data sets, there is a need for an even closer examination of the marginal distributions of all variables. The authors find that the best results related to race, age, and home ownership. They also find that matching did not perfectly capture the upper tail of the distribution of wealth in the SCF. Moreover, wealth is less unequally distributed along the income distribution in the synthetic data set than in the

SCF. For the most part, however, the average values of corresponding variables were similar in the matched data set and SCF for all income classes. For example, there is close correspondence between the imputed and donor data sets by race and home ownership status. In sum, this application of statistical matching has resulted in a synthetic data set that preserves the marginal empirical distribution of the wealth variables in the donor data set. Some variation is observed due to differences in the sample frames between data sets.

In terms of quality control, if the conditional independence assumption is met, then the synthetic data set captures the distribution of the donated variables adequately. A potential challenge using this technique relates to the use of weighted observations. *For the complete text, go to www.levy.org/pubs/wp_535.pdf.*

Program: Gender Equality and the Economy

Deficient Public Infrastructure and Private Costs: Evidence from a Time-use Survey for the Water Sector in India

LEKHA S. CHAKRABORTY

Working Paper No. 536, July 2008

Time spent on nonmarket as opposed to market activities is often invisible in the assessment of economic growth. This paper represents the first attempt to use a major macro-level time-use survey for a developing country and to provide evidence on the link between public infrastructure and time allocation related to the water sector in India.

Research Associate Lekha S. Chakraborty hypothesizes that increased investment in water infrastructure will release rural women's allocation of (nonmarket) time to market work. She refutes the assumption of labor force exogeneity in the treatment of the nonmarket economy and incorporates intrahousehold gender asymmetries in the allocation of time. She finds that women spend much more time on unpaid work than men do, and that there is an intrinsic gender dimension to (nonrival) public expenditures.

The author analyzes the 1998–99 time-use survey by the Central Statistical Organization—a sample of 18,591 households in six major Indian states (Gujarat, Haryana, Madhya Pradesh, Meghalaya, Orissa, and Tamil Nadu). The time-use data was generated using the time-diary method for weekdays and weekends. Chakraborty notes that this method has certain deficiencies, such as the omission of overlapping activities and recall accuracy with respect to temporal double counting.

According to the satellite accounting system, as defined in the 1993 United Nations System of National Accounts, females spend 35 hours per week on average in own-account services, while males spend less than 4 hours. The time-use survey finds that females spend half of their time, while males spend only one-third of their time, on unpaid work. District data on wage rates for agricultural labor and for urban, unskilled manual labor were used to value unpaid work in rural and urban areas, respectively. Chakraborty finds that the value of women's unpaid activities could be as high as 41 percent of a state's domestic product (Madhya Pradesh), while that of men's was as low as 2.5 percent (Gujarat and Haryana). Unpaid work as a proportion of a state's domestic product was as high as 50 percent in Meghalaya.

Further results suggest that there is a quadratic relationship between access to infrastructure and market work; market time decreases with travel time to fetch water (at a decreasing rate). The negative relationship between infrastructure access and time allocation supports the author's hypothesis that better public infrastructure may free women to spend more time in market-oriented work. The author cautions, however, that there is often a disparity between infrastructure budgeting and actual spending. Although there is an inverse relationship between work in the care and market economies, Chakraborty finds that the relationship is significant only for models with a financial input variable. Her findings suggest that there can be a link between deterioration in infrastructure and rural poverty.

These results have significant policy implications, says Chakraborty. Time poverty affects income poverty, but time poverty is often overlooked when framing macro policies. Arguments against gender budgeting and the notion that public infrastructure expenditures are nonrival in nature are refuted by the time-budget statistics. Since there are significant gender differentials in activities, such as fetching water and fuel, infrastructure investment with gender-sensitive policies can benefit women significantly, reducing the stress of walking long distances and allowing them to spend more time on market-oriented activities. *For the complete text, go to www.levy.org/pubs/wp_536.pdf.*

Program: Employment Policy and Labor Markets

Argentina: A Case Study on the *Plan Jefes y Jefas de Hogar Desocupados*, or the Employment Road to Economic Recovery

DANIEL KOSTZER

Working Paper No. 534, May 2008

Daniel Kostzer, United Nations Development Program, Buenos Aires, shows how Argentina recovered from one of the worst social and economic crises in its history when the Argentine government acted as employer of last resort (ELR). In response to the 2002 crisis and protests against the political system, the government introduced the largest direct transfer, income-employment plan in Latin America—*Plan Jefes y Jefas de Hogar Desocupados* (Program for Unemployed Male and Female Heads of Household). He finds that the plan's continued success in fostering economic recovery depends on efficient and creative management, a sound technical evaluation, transparency, a high level of coordination between jurisdictions, and strong political will.

The author outlines the failings of previous social programs in Argentina, such as the *Trabajar* employment program in 1995 that was under the supervision of the World Bank (e.g., its implementation was unclear and its constrained budget covered only 15 percent of the unemployed). Under pressure from the International Monetary Fund in 1999, the government liberalized the exchange rate, which skyrocketed from 1.40 to 3.90 pesos per U.S. dollar, and the Ministry of Labor subsequently faced increasing budgetary limitations due to debt payments. In 2000, responding to pressure from the World Bank, the Ministry of Social Welfare opted for income programs that targeted specific areas and were based on a child allowance to the poor, similar to the Mexican *Progresa* plan. At this time, however, the government's research unit (inspired by the ELR programs proposed by several post-Keynesian institutions) stressed the idea of a universal program that targeted the unemployed head of household.

After a decade under the "straitjacket" of the currency board's fixed exchange rate, Argentina's economic indicators showed a 25 percent decline in average nominal income per household, a 48 percent reduction in real income, a rise in the Gini coefficient, and a tripling in the number of poor households. The unemployment rate peaked at 25 percent in May 2002. The pressure for fiscal surpluses implied a lack of tools for intervention in the midst of a recession.

The pro-market policies recommended by the Washington Consensus caused a disarticulated pattern of growth in Argentina (e.g., GDP increased, while income distributions deteriorated) at the social, sectoral, and regional levels. The social disarticulation reduced the interaction (via domestic demand) between labor and capital. The sectoral disarticulation reduced import taxes and increased foreign inputs, especially within the framework of exchange rate appreciation (i.e., the closing of domestic lines of production). The regional (local) disarticulation meant that some sectors of the country lost their economic viability due to growing unemployment and social exclusion. All three disarticulations occurred simultaneously and rapidly, and jeopardized democracy in Argentina.

As a result of the liberalized exchange rate, domestic production was protected, new fiscal instruments increased competitiveness among local firms, and a fiscal surplus generated a buffer stock that could be more broadly distributed, through revised social policies and income redistribution. The setup allowed more traditional Keynesian instruments, such as the state acting as the ELR, and the new set of relative prices changed the productive structure of the country.

Kostzer notes that it is important to boost domestic demand in order to encourage import substitution, increase capacity utilization, and generate employment. He outlines the political, social, and regional advantages of ELR programs: they can be used (globally) to counter poverty and unemployment, improve human capital and infrastructure, and reduce the negative impact of the business cycle (i.e., they are countercyclical). The marginal propensity to consume for households in the program is close to one and the marginal propensity to import is low, implying a multiplier of 2.53 for the medium term. This simple Keynesian multiplier is very important when an economy is in recession, says Kostzer, and employment recovers faster in regions with lower average incomes.

In Argentina, the ELR program was structured such that direct payments were made by the federal Ministry of Labor, Employment, and Social Security, while projects and beneficiaries were defined and managed at the local level. The program was financed by the Treasury and represented 1 percent of GDP and 4.9 percent of the yearly budget. By the end of 2002, two million beneficiaries were already receiving support, and the local councils ultimately became the most relevant and novel instrument of social policy in the country.

The socio-demographic characteristics of beneficiaries of the ELR plan were based on household and ad hoc surveys by the government, as well as studies by the World Bank and other institutions. Kostzer notes that the plan includes 16 percent of all households in the country. In terms of the characteristics of the beneficiaries, half are less than 35 years of age, 71 percent are women, 60 percent are single heads of household, and 90 percent are below the poverty line. Since the plan was initiated, household incomes have increased 67 percent on average and indigence levels have declined by 25 percentage points (to 53 percent).

The wage floor established by the plan has led to opposition by the business community due to distortions in local labor markets. Approximately 60 percent of beneficiaries work in the production of goods in terms of the local infrastructure (e.g., schools) or consumables (e.g., bakeries). Since the plan's inception, almost 750,000 beneficiaries have left the plan and are now employed in the formal labor market.

For the first time in 50 years, the economy of Argentina has grown continuously for four years (as of 2006). Unemployment declined from three million in May 2003 to 1.3 million in 2006, and the purchasing power of the minimum wage has more than doubled in the 2001–06 period as a result of steady growth in the new macroeconomic environment.

For the complete text, go to www.levy.org/pubs/wp_534.pdf.

The Return of Fiscal Policy: Can the New Developments in the New Economic Consensus Be Reconciled with the Post Keynesian View?

PAVLINA R. TCHERNEVA

Working Paper No. 539, July 2008

The New Economic Consensus (NEC) is an inherently monetary regime whose core propositions are contained within the IS equation, an expectations-augmented (New Keynesian) Phillips curve, and the Taylor Rule. The NEC considers fiscal policy distortional, inflationary, and useful only in extreme deflationary periods. Mainstream economists, including Federal Reserve Chairman Ben Bernanke, embrace the core concepts of the NEC and have severed the Keynesian link between fiscal policy and full employment. The Post Keynesian school of thought, however, has reinstated that link via functional finance, and maintains that there is nothing inherently inflationary about fiscal policy.

Research Associate Pavlina R. Tcherneva assesses the potential for fiscal policy within the NEC and observes that some of its followers are beginning to recognize that monetary and fiscal policies are complementary. In Japan, for example, economic recovery occurred only after heavy government spending, which revived interest in fiscal policy as a tool for macroeconomic stabilization.

To understand the renewed role for fiscal policy, Tcherneva examines the following issues: (1) the effect of government spending and debt on the behavior and expectations of rational consumers; (2) the method of financing government spending and whether or not there is a binding budget constraint; and (3) the impact of fiscal policy on the banking system and central bank policy.

Tcherneva notes that the Ricardian equivalence hypothesis invalidates the effectiveness of fiscal policy, but the hypothesis has been challenged on several grounds (e.g., the consumption smoothing effect is not supported empirically). Moreover, non-Ricardian fiscal policy regimes, where governments promise no future offsets (taxes) to current spending, are the norm. In these regimes, fiscal policies have sizable demand-side effects on both inflation and output that are manifested via a wealth-effect mechanism (e.g., the "bond drop" theory of inflation, whereby government bond finance produces a wealth effect and induces price increases).

According to the traditional view of optimizing government finance, intertemporal budget constraints offset spending by current or future taxes in order to guarantee intergenerational equity and sustain the government budget. In terms of the NEC, the dominant perspective is "sound finance" (e.g., debt-to-GDP caps) rather than Abba Lerner's functional finance, whereby government policy is judged by its impact on economic performance rather than by the size of the deficit.

Opponents of the mainstream theory hold that there are no technical constraints to government spending and that the government and the private sector are very different agents. Moreover, they maintain that inflation is a purely fiscal phenomenon, not a monetary one, suggesting that the quantity theory of money is irrelevant. These views are radically different from most mainstream analyses. The unique nature of government liabilities and issues of solvency (rather than sustainability according to binding constraints) are being recognized by the NEC. What is paradoxical, says Tcherneva, is that the inflationary impact of government spending has served to reinforce a belief in the need to impose budget constraints even if those constraints do not naturally exist, to precluding any useful stabilization or full employment policy. "Sound finance" remains unchallenged.

We have entered a new age of policy effectiveness, observes the author, where the optimal policy mix is in dispute. If fiscal policy is non-Ricardian, then fiscal and monetary policy (and their interaction) must be clear and transparent to the public, so that rational agents can make optimal decisions. Notions of sound finance and intertemporal budget constraints pervade NEC thinking, says Tcherneva, to the detriment of a genuine understanding of the stabilizing potential of fiscal policy in an endogenous money context.

Bernanke supports inflation-targeting policies while advocating the need for fiscal policy as a stabilization tool in times of crisis. In his view, inflation is due to forward-looking expectations, which alter the consumption behavior of optimizing agents. The fiscal effect comes from a wealth effect, such as President George W. Bush's tax rebate checks (i.e., a fiscal money drop rather than a bond drop). The strong supply-side bent in the NEC favors tax cuts, while few argue for government spending as a stabilizing tool.

There are theoretical and methodological reasons for the enduring split between fiscal policy and employment concerns. Keynes made the connection between fiscal policy and full employment (i.e., how to eliminate involuntary unemployment), but the NEC is not methodologically capable of dealing with this concept and has little to do with either Keynes's theoretical contributions or his policy recommendations.

The Post Keynesian school of thought believes that fiscal policy is a more potent tool than monetary policy for achieving macroeconomic coordination and stabilization. Tcherneva outlines two distinct approaches to functional finance: (1) to increase aggregate demand and close the GDP gap (the dominant approach, which is indirect), and (2) to secure full employment through direct job creation. The core proposition of (1) is to boost the aggregate demand, investment, and growth that underpin a floating definition of full employment. The basis of (2) is that there are no inherent borrowing or taxing constraints to government financing in sovereign currency nations, and that the link between fiscal policy and full employment must be explicit.

Tcherneva compares these approaches with the NEC fiscal view, and explains why crowding out, Ricardian equivalence, and budget constraints are irrelevant to understanding the nature of government finance. She discusses the explicit link between fiscal policy and full employment, and concludes that guaranteeing full employment by closing the demand gap will likely fail. Tcherneva favors employer-of-last-resort programs that are judged by their economic impact rather than their budget stance. The next task for Post Keynesians, she says, is to evaluate the relative macroeconomic merits of the two approaches.

For the complete text, go to www.levy.org/pubs/wp_539.pdf.

Program: Economic Policy for the 21st Century

Explorations in Theory and Empirical Analysis

Can Robbery and Other Theft Help to Explain the Textbook Currency-demand Puzzle? Two Dreadful Models of Money Demand with an Endogenous Probability of Crime

GREG HANNSGEN

Working Paper No. 529, March 2008

N. Gregory Mankiw, in the textbook *Macroeconomics* (2003), noted that individuals held much less money than suggested by theory. Research Scholar Greg Hannsgen constructs a static monetary model with noncash costs and endogenous probabilities of robbery in order to explain the empirical puzzle posed by Mankiw, after demonstrating how these ideas would work in a fully dynamic model.

In Mankiw's puzzle, a Baumol-Tobin inventory-theoretic money demand equation predicted that the average U.S. adult should hold approximately $551.05 (in 1995 dollars) in currency and coin, while a 1995 survey of households by the Federal Reserve (Fed) reported that the average U.S. adult held only $100 in cash. Hannsgen's paper pursues a twofold explanation of low household demand for cash based on the assumptions that the incidence of crime is positively related to the amount of cash held by individuals and that the costs include the loss of cash as well as nonpecuniary costs such as psychological trauma, physical injury, medical bills, and lost work hours.

Hannsgen notes that data on household cash holdings are sparse and that there have been few attempts to incorporate theft into models of money demand. He also notes that there is cross-country evidence of a negative effect of violent crime on household cash holdings. He further notes that in his monetary model, there are a number of reasons why the possibility of being robbed reduces the net marginal benefits of holding real cash balances. The consumer loses utility when cash is lost and robbery reduces his/her psychological and physical well-being. However, the costs of victimization are inherently difficult to measure, so Hannsgen explores two possible values for the costs of robbery based on studies by Mark A. Cohen and coauthors in 2001 and 2004, and solves his model using a number of different sets of parameters.

Adopting one plausible set of parameters in his model, Hannsgen finds that the fear of crime reduces cash demand by 86 percent, or $96 billion, and the average person holds $75.98. The impact of crime is equivalent to 26.1 percent of total currency as measured by the Fed. Eliminating the fear of crime would increase household cash demand by an amount approximately equivalent to 47.5 percent of domestically held currency. Although there is no recent data on cash holdings and it is not possible to determine how the model performs using today's lower crime rates, Hannsgen's model suggests that larger average nominal nondurable consumption expenditures, an increase in nominal wages, a doubling of the interest rate, and larger real ATM fees in combination with lower crime rates may have greatly increased cash balances between 1995 and 2005.

Hannsgen's endogenous crime theory of cash demand is an intuitively appealing answer to the anomaly pointed out by Mankiw. It may help answer broader questions about the portion of the aggregate stock of cash that is not held by U.S. households (e.g., cash held abroad and in the black market) and provide evidence for certain welfare issues.

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INSTITUTE NEWS

Special Lecture: Joseph E. Stiglitz on the Costs of the Iraq War

Stiglitz, Columbia University, received the Nobel Prize in Economics in 2001 and is a member of the Board of Governors of The Levy Economics Institute. On April 24, he presented an overview of his book *The Three Trillion Dollar War* (coauthored with Linda J. Bilmes, 2008) at Bard College. The authors claim that the U.S. government has consistently underestimated and hidden the true costs of the Iraq War, as well as the number of injuries.

Stiglitz noted that the Iraq War is the first war in American history that has been financed totally on credit. He also noted that $3 trillion is a conservative estimate of the war's cost—that its true cost is $4 to $5 trillion. He further noted that the most important issue in the coming U.S. presidential election relates to both the war *and* the economy, because the war has weakened the economy. He dispelled the view that wars are an economic good and instead projected a long and serious downturn. Using the concept of "opportunity cost," Stiglitz observed that one-sixth of the current cost of the Iraq War could have put Social Security on a sound financial footing for the next 50 to 75 years, while the cost of a few days of fighting in Iraq could have paid for the poor-child health bill that was passed by Congress but vetoed by the president on the grounds we could not afford it.

Approximately $800 billion has been explicitly appropriated for the Iraq War. There are, however, hidden costs within the (increasing) budget of the Department of Defense, as well as higher recruitment/wage costs and repair bills. The biggest budgetary costs will be future expenses related to disengagement, resetting the military, and disability benefits for veterans. The government, however, has not set aside funds for these entitlements. In addition, there are microeconomic costs (e.g., costs borne by individuals that are not reflected in the federal budget), as well as macroeconomic costs (e.g., higher oil prices).

There are also the costs, financial as well as ethical, of the war's privatization. The presence of civilian contractors who are more highly paid than their counterparts in the military has led to a morale problem in the armed forces, and to ever-larger reenlistment bonuses (an effort to dissuade personnel from abandoning the military for a more lucrative job in the private sector). No-bid, cost-plus contracting (and a lack of Congressional oversight) has encouraged profiteering, and the hiring of (cheaper) non-Iraqi labor by private contractors has done nothing to address the high unemployment caused by the war, while increasing resentment among the civilian population and further undermining our mission in Iraq.

Stiglitz remarked that the U.S. economy has not seemed so badly off because the Federal Reserve let loose a flood of liquidity and relaxed regulations, which led to a housing bubble and a consumption boom. He warned, however, that we are living on borrowed money and borrowed time. The huge deficits have reduced our room to maneuver, and the government's $150 billion fiscal stimulus package won't address the economy's problems.

The main reforms suggested by Stiglitz and Bilmes relate to accounting and budgetary issues (e.g., accrual accounting for future liabilities), and veterans' issues (e.g., the current backlog in applications for disability benefits is roughly 400,000). The treatment of our troops is one of the biggest scandals of this war, exclaimed Stiglitz. The big policy question concerns our exit strategy in the face of projected costs of $1.2 trillion over the next four years, and the unknowable consequences of withdrawal.

PUBLICATIONS AND PRESENTATIONS

Publications and Presentations by Levy Institute Scholars

RANIA ANTONOPOULOS *Research Scholar*

Presentations: "Poverty Reduction and Job Creation Assessment of Active Labour Market Policies: The Case of South Africa's EPWP," seminar on Employment Impact Assessment, International Labour Organization, Geneva, March 18–19; "Macro-Micro Impacts of Public Job Creation: A Gender-informed Social Accounting Matrix Approach," at the "International Conference on Employment Opportunities and Public Employment Policy in Globalising India," Centre for Development Studies, Trivandrum, Kerala, India, April 3–5; "The *Right* to Work, the *Right Types* of Projects: A Gender Perspective," Graduate Faculty, New School for Social Research, New York, April 8; "The Job Deficit: Market Failure and Employment Guarantee Policies," "The Citizen City International Symposium on ELR," sponsored by the National Development Bank of Brazil and the Zero Unemployment Institute, Rio de Janeiro, May 9–10; "Can Public Job Creation Result in Pro-poor Growth and Gender Equality?" International Poverty Centre, United Nations Development Programme, Brasília, Brazil, May 13.

JAMES K. GALBRAITH *Senior Scholar*

Publications: "Inequidad salarial en Cuba durante el Período Especial" (with L. Spagnolo and D. Munevar), *América Latina Hoy*, Vol. 48, April; "Pay Inequality in Turkey in the Neo-Liberal Era: 1980–2001" (with A. Elveren), UTIP Working Paper No. 49, April; "Digging a Hole," review of *Bad Money: Reckless Finance, Failed Politics, and the Global Crisis of American Capitalism* by Kevin Phillips, *The Texas Observer*, May 15.

Presentations: "The Political Economy of U.S.-China Relations," conference on "The Revival of Political Economy," Department of Economics, Drew University, Madison, N.J., February 9; "Globalization and Inequality," 10th International Conference on Globalization and the Problems of Development, Association of Economists of Latin America and the Caribbean and Cuban Association of Economics and Accountants (ANEC), Havana, March 6; "The Collapse of Monetarism and the Irrelevance of the New Monetary Consensus," 25th Annual Milton Friedman Distinguished Lecture, Marietta College, Ohio, March 31; "American Economic Inequality: A Brief Tour of Some Facts," conference on "Economic Inequality and the Hourglass Economy: The Decline of the Middle Class, The End of the American Dream?" McCormick Tribune Foundation Conference Series, Federal Reserve Bank of Chicago, May 2; "The Fed's *Real* Reaction Function: Monetary Policy, Inflation, Unemployment, Inequality," Political Economy Research Institute Conference in Honor of Jane D'Arista, Amherst, Mass., May 2–3.

KIJONG KIM *Research Scholar*

Presentation: Interview regarding the prospects of a rapid increase in consumer spending and loans in Georgia with Molly Corso, *Investor.ge*, May.

JAN KREGEL *Senior Scholar*

Publication: "The Continuing Policy Relevance of Keynes's General Theory," in *Keynes for the Twenty-First Century: The Continuing Relevance of* The General Theory, M. Forstater and L. R. Wray, eds., Palgrave Macmillan, 2008.

Presentations: "Crisis e inestabilidad financiera internacional," 10th International Conference on Globalization and the Problems of Development, Association of Economists of Latin America and the Caribbean and Cuban Association of Economics and Accountants (ANEC), Havana, March 3–7; "Some Overlooked Contributions to the Theory of Finance," Conference on Keynes's Economics and His Influences on Modern Economics: "The Keynesian Revolution Reassessed," Sophia University, Tokyo, March 18–19; "Using Minsky's Cushions of Safety to Understand the Subprime Mortgage Crisis," Department of Economics Graduate Seminar, School of Oriental and Asian Studies, University of London, April 23; presentation as co-convenor of the Expert Meeting of the Ford Foundation Research Group: "Financial Liberalization and Global Governance: The Role of International Entities," IBASE, Rio de Janeiro, May 8–9; "Using Minsky's Cushions of Safety to Understand the Subprime Mortgage Crisis in the United States," Facultad de Economia, Division de Estudios de Posgrado, Universidad Autónoma de México, Mexico City, May 19; "International Economic Environment and Policy Space for Domestic Resource Mobilization," Group of 24, Meeting of the Experts on the FfD Process, South Centre, Geneva, May 23–24.

THOMAS MASTERSON *Research Scholar*
Publications: "U.S. Economic Inequality and What We Can Do About It" (with S. Naidu), *Solidarity Economy: Building Alternatives for People and Planet: Papers and Reports from the 2007 U.S. Social Forum*, J. Allard, C. Davidson, and J. Matthaei, eds., ChangeMaker Publications, 2008; *Rural Poverty in Paraguay: Gender, Land Markets, and Productivity*, VDM Verlag Dr. Müller, 2008.
Presentation: "Globalization and Wages in the U.S. Labor Market," seminar sponsored by St. Francis College, Brooklyn, N.Y., March 31.

DIMITRI B. PAPADIMITRIOU *President*
Publications: "The Economic Contributions of Hyman Minsky: Varieties of Capitalism and Institutional Reform" (with L. R. Wray), in *Leading Contemporary Economists*, S. Pressman, ed., Routledge, 2008; Introduction (with L. R. Wray), in H. P. Minsky, *Stabilizing an Unstable Economy* and *John Maynard Keynes*, McGraw-Hill, 2008.
Presentations: Interview regarding Basel II with Nicholas Rummell, *FinancialWeek*, March 6; interview regarding Federal Reserve interventions during times of market trouble with Michael Derby, *Dow Jones Newswires*, March 14; interview regarding Bear Stearns liquidity problems with Mary Kane, *Washington Independent*, March 24; keynote speaker, "International Conference on Employment Opportunities and Public Employment Policy in Globalising India," Centre for Development Studies, Trivandrum, Kerala, India, April 3–5; interview regarding how people should spend their stimulus payment to help the local economy with Sarah Bradshaw, *Poughkeepsie Journal*, April 22; interview regarding what went wrong in the U.S. financial system with Kenneth Jost, *Congressional Quarterly*, April 22; interview regarding monetary policy and bank regulation with Ron Fink, *FinancialWeek*, April 24; interview regarding the latest Federal Reserve interest rate cut with Daniel Sturgeon, *Tokyo News*, April 30; interview regarding current research programs at The Levy Economics Institute with Christine Pizzuti, *Poughkeepsie Journal*, May 6.

JOEL PERLMANN *Senior Scholar*
Presentation: "American Jewish Opinion about the Future of the West Bank," annual meeting of the Association for Israel Studies, New York University, May 20.

EDWARD N. WOLFF *Senior Scholar*
Publication: "Ruggles, Richard (1916–2001)," in *The New Palgrave Dictionary of Economics*, Second Edition, S. N. Durlauf and L. E. Blume, eds., Palgrave Macmillan, 2008.
Presentations: "Accounting for Wealth in the Measurement of Household Income," The 2008 World Congress on National Accounts and Economic Performance Measures for Nations, Arlington, Va., May 13–17; "The Distribution of Wealth in the United States from 1983 to 2004: Inequality and Polarization," Research Workshop of the Israeli Science Foundation on Income Polarization, "Measurement, Determinants and Implications," Jerusalem, May 26–28.

L. RANDALL WRAY *Senior Scholar*
Publications: "The Continuing Legacy of John Maynard Keynes," in *Keynes for the Twenty-First Century: The Continuing Relevance of* The General Theory, M. Forstater and L. R. Wray, eds., Palgrave Macmillan, 2008; Introduction (with D. B. Papadimitriou), in H. P. Minsky, *Stabilizing an Unstable Economy* and *John Maynard Keynes*, McGraw-Hill, 2008; "Lessons from the Subprime Meltdown," *Challenge*, March–April; "Lecciones del hundimiento

de las subprime," *Circus: Revista Argentina de Economia*, Vol. 1, No. 2, 2008; "Demand Constraints and Big Government," *Journal of Economic Issues*, Vol. 42, No. 1, March; "Some Reflections on the Current U.S. Financial Markets Meltdown," *Monthly Report* (The Vienna Institute for International Economic Studies), No. 5, May. **Presentations:** "Feast or Famine: Savings Gluts and Liquidity Shortages," International Monetary Conference, St. Croix, Virgin Islands, January 10–13; interview regarding local impacts of the recession with Ted Bell, *Kansas City Business Journal*, March 19; lecture, "Employer of Last Resort," New School for Social Research, New York, April 15; "Financial Markets Meltdown" and "How to Teach Money," Association for Institutional Thought annual meetings, Denver, April 23–26; interview for feature on the flat tax with Rob Lowe, Fox News, WDAF, Kansas City, May 6; interview regarding financial markets meltdown with Kenneth Jost, featured in "Financial Crisis: Did Lax Regulation Cause a Credit Meltdown?" *CQ Researcher*, May 9; "Estabilização macroeconômica e política de Empregador de Última Instância," Simposio Internacional Cidade Cidadã, Rio de Janeiro, May 9–10.

GENNARO ZEZZA *Research Scholar*

Publications: "The U.S. Housing Market: A Stock-flow Consistent Approach," *Ekonomia*, Vol. 10, No. 2, Winter 2007; "U.S. Growth, the Housing Market, and the Distribution of Income," *Journal of Post Keynesian Economics*, Vol. 30, No. 3, Spring 2008.

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

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